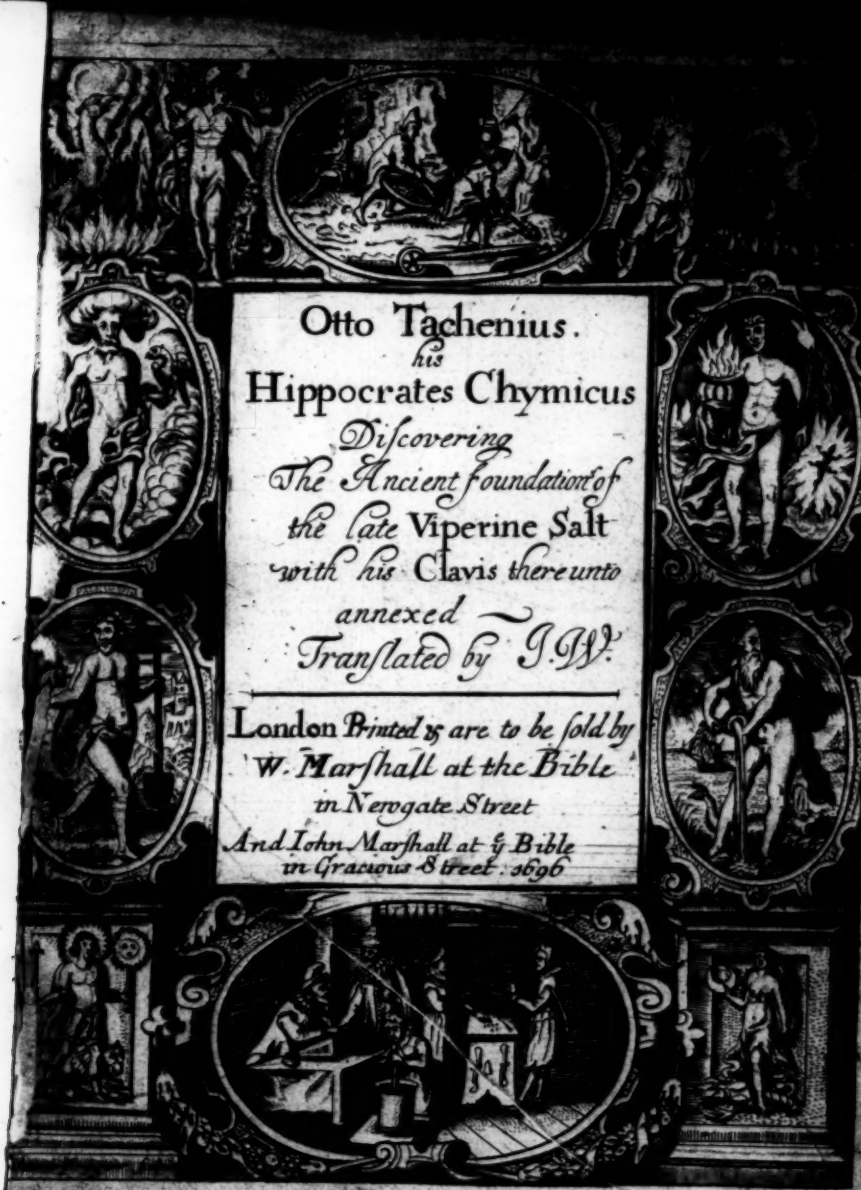

Otto Tachenius.
his
Hippocrates Chymicus
Discovering
The Ancient foundation of
the late Viperine Salt
with his Clavis thereunto
annexed
Translated by J. W.

London Printed & are to be sold by
W. Marshall at the Bible
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in Gracious Street. 1696

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To the Most Serene and Mighty PRINCES,

The LORDS { *George William*, *John Frederick*, *Ernest Augustus*, } Brethren.

By the Grace of GOD, DUKES of *Brunswick* and *Lunenburg*, &c.

His Most Bountiful LORDS.

POnd'ring often in my Mind (*High and Mighty Princes, and my Noble Patrons*) the Great and many Favours which Your Grand and Prince-like Liberality hath most Graciously heaped upon me, and thereby Eternally obliged me to Your Excellencies; I became solicitous and concerned in my thoughts, with what Veneration and Industry of Wit (answerable to the Obsequiousness of my Devoted mind) I might declare by some Testimony, at least, an endeavour of Gratitude for Your Benefits bestowed upon me. 'Tis the guise of Others in Dedicating their Lucubrations to Princes and Nobles, chiefly to concern themselves in Blazoning their Genealogies, and in Decyphering their Praises and Heroick Acts, in an high Method of Elegancy, thereby extolling them (as we say) with an open mouth to the Skies. But I (well knowing that the full-blown Elogies of Talkative Fame, do displease Your Excellencies, especially since glorious and memorable Vertue it self, for so many Ages backward (together with Magnanimous Bounty) have flourished in the most August House of Brunswick and Lunenburg, and by God's

Blessing will ever flourish in the same) I, I say, waving therefore all such Procedure do come only furnished with a gift not large, nor great (though you are worthy of both) nor glittering with Gold, Silver, or Precious Stones, Ornaments which (Divine Bounty hath abundantly replenished Your Highnesses withall, but) are denied to me, and persons of my condition: Mine is only a Paper gift, but extracted from the true Protochymick Art, which is most Ancient, and hath more in the Recess *than it promises in the* Front: *Yea it is That, by which the uncreated Spirit, the Founder of the World did order and distinguish the (otherwise) confused Natures of things. Hereupon I perswaded my Self, that I could offer no gift more grateful to Your Highnesses, than a new work of this most Vsefull, yet wonderful and Necessary* Science. *A Work most curious in it self, which hitherto Envy hath forborne to restore, and to gratify the World with: For although the unconquerable* Truth *comes commended only by its own strength, and is sufficiently fortified by its proper and native Vigor (for nothing can subsist, which is not* firmed *in the very Foundation of Nature) and so enjoys this invincible Patronage; yet the plain Purity of my Writings being Dedicated to Your* Eminencies, *and thereby armed with so great Splendor, thus doubly strengthened, will appear more boldly in the sight of the World. Accept therefore (most Noble Princes) this Diminutive Gift for the bare* Title's *sake, and go on, if not entirely to love, yet somewhat to respect and favour,*

VENICE *the Ides of* May, 1666.

Your Highnesses most
Devoted Servant,

OTHO TACHENIUS.

THE

The PREFACE to the Courteous READER, And Lover of the Ancient Doctrine of HIPPOCRATES.

HIppocrates, *That bright-shining Light of Physick, did wrap up His Divine Oracles in* Ænigma's, *and with an Obscure Brevity, related his Precepts in all the parts of his Works; So that his Instructions and Aphorismes, by reason of their Obscurity, are wrested by Writers into diverse Senses; some of which* Galen, *with wonderful Skill and comely Order, hath digested into* Chapters; *but others ome, especially the* Golden Book De Diætâ, *which is full of Mysteries, he hath left untouched. For the Divine Old-Man bequeathed* Those *only to the followers of* Chymistry; *which* Art *was heretofore, and perhaps in* Hippocrates *his time, called* Natural Philosophy. *For who can understand the rare sayings of that Old-Man, or comprehend the* Soft Fire *mentioned by him, unless he be well versed in this Occult Natural Philosophy of* Hippocrates. Raimund Lully *gives his Attestation hereto; for, says he,* Though a Logician may have as profound Wit, acquired, or natural, able to argue concerning outward things, yet he can never understand by any Reason grounded on Sense, how the Seed in the Earth doth germinate, increase, and brings forth Fruit, unless, being assisted by experimental Learning, He first have made some progress in Our Natural Philosophy, rather than in That Sophistical Wordy one, which Logicians do attain to, by sundry Phantastical suppositions and presumptions; who thereby, with the Prognostications of their sequels against the force of Nature, do cause many Men pertinaciously to err, through an intoxicated Mind. But by our Mechancial Science, the Understanding is rectifyed in point of insight, and of true Mental Knowledge, by the force of Experience: Yea, Our Experiments are superior to all phantastical Probations of Conclusions, and therefore admit not of Them, but do shew the way how all other Sciences may enter vigorously into the Understanding. Whence we further learn by Nature, that In-

The Writings of the Ancients were like the Oracles of *Apollo*, Ænigmatical.

Testam. chap. 26

Inward thing, That it is, and What it is; because by such Science the Understanding is freed from those superfluities and errors, which do ordinarily carry it off from the Truth, by reason of those presumptions and prejudices which are believed in the Conclusions. Hence it is, that Our *Chymists* have directed themselves through the path of every Science, to enter into all Experience by Art, according to the course of Nature in her Univocal Principles. For 'tis only Chymistry, which is the Glass of the true Understanding, shewing it how to feel and see Truths in a clear light, and therefore *Tabula Smaragdina* saith, By this kind of demonstration all Obscurity is banished and expelled from Man, *&c.*

Lib. 1 de Dieta Hippocrates *points at the foundations of this most* Ancient Art, *in the beginning of his aforesaid Book.*

All other living Creatures, *says he*, as well as Man, are constituted of Two principles, different in faculty, but concording, and joyntly fit for Use, Fire and Water: Both of These together, are sufficient both for all other things, and also for themselves mutually; but either of them severally and a-part, is sufficient neither for it self, or any other, *&c.*

It is my purpose in this *short* Tract, *to expose to View those two, hitherto* Obscure *Principles, to wit.* This soft Fire *and* Coagulable Water, *only out of a desire to propagate Truth; which in this Age is wofully kept under by the Haters of Hippocratical Learning; not that I think it possible for any Man, wholly to extinguish* it, *In regard it is Powerful, Impregnable, and Triumphant above all things in the whole World, as Holy Writ also testifies; For* Zorobabel *says*, Wine is strong, The King is stronger, Women strongest, but above all things, Truth beareth away the Victory; all the Earth calleth upon Truth; The Heaven praiseth it, it is always strong, it conquereth and liveth for evermore, *&c.*

3 Esdr. c. 3 &c.

Ob. *I know many men according to the variety of their Dispositions, will diversly censure me, for publishing That which Nature hath decreed to manifest only to* Philosophers; *and These too, trying hard after it, by Labour and Study.*

Theor. c. 1 *For, says* Raimund, Nature, my Lady and Mistress ap-

appeared to me, and with Tears in her Eyes, Thus spake me thus; Alas! what shall I now do? endeavours are on foot to take away my Weapons and Instruments from me, and to plunder and discover my Secrets, &c. Whereupon I obliged my self to hide her Instruments and to preserve them from the hands of their enemies. *These* Instruments *of Nature the profound* Lullye, *being so instructed by* Hippocrates, *keeps in the dark and points at them only in two Words, calling them* Entia Realia.

So also Basilius Valentinus *hides Them under the barbarous terms of* Asa, *and* Phalaia: *Yea, the same Mechanical Instruments of Nature, which* Hippocrates *calls Fire and Water, He elsewhere styles,* Gladiatores: *And as* Hippocrates *did display them only to a few Disciples, after the manner of the* Pythagoreans, *under the operation of various Arts; so* Basilius, *following his Master, chuses to represent them under the notion of Brewing of Beer, and other Rural Labours.* A Clavi. 1. 2. See Cur. Triumph. Antim.

But Paracelsus *despising vulgar Allusions, though condemned of Heresie by the Church, yet agrees with* Hippocrates *in This most* Ancient Learning, *and holds forth the afore-said* Instruments *of Nature under the names of diverse* * Spirits. * *One Spirit draws, another thrusts out, both doth same thing,* &c. Hip. l. 1. De Dent.

The rest of the Ancient Philosophers vailed the said Architectonick Instruments under the fained compellation of Re-bis *(as if intimating two things) Hence the Rythme,*

Est *Re-bis* in dictis rectissima norma figuris,
From Rebis, *as two things,*
The right Rule springs.

Others have notified and represented Them under other disguises, &c.

I answer, That I was not without the deep consideration of these and many other things in my mind, yet (for a reason to be mentioned anon) I could by no means be diverted from my purpose; especially being perswaded, that therein I benefit the Common-Wealth, *to which all of us owe the greatest part of our Fortunes: For in displaying these* Instruments *of Nature, I do likewise exhibit a sure and certain Method, hitherto observed by few, exclusive of all Ambages and Fallacies; so that for the future, This most Ancient, Noble, and Necessary Art of* Chymistry *may for ever be vindicated from the Calumnies and Barkings of Illiterate and Flagitious Persons, who are its rude and ignorant* Haters. Ans.

For

I would impair no good Man's Credit hereby.

For what doth more frequently proceed from such Giant-like months (not only against the afore-mentioned lights of the World, but also against Those [illegible] out of their zeal for Piety and Freedom, have endeavoured [illegible] their assiduous labour and meditation to conquer those Difficulties and dispel those Obscurities, which the Ancients (worthy to be had in perpetual remembrance) have propounded) than the names of Apostates, Mountebancks, Empiricks, *or* Experimentalists *(though this last Epithite they sparingly give; as [illegible] willing to mention any thing of* experience) *Yea, they likewise threaten and crack amongst unlearned ones (a just Wonderment [illegible] so great Arrogance can be spent on so small a Subject) that they will shortly manifest to the World by their Pens, the Vanities of* Chymistry, *though they never yet knew what this Ancient* Dame *was, nor had ever the honour to salute her, so much as at the Threshold. O how sorely do they mistake our Friend* Galen, *whose Followers, yet they profess themselves to be. For he teaches,* That in every thing a Man must first be his Crafts-master, before he begins his Work. *Assuredly there is a great difference between the* Skill *of making Experiments, and an* habit *of uttering vain and empty words. Of such* Heraclitus *said of old,* It is not best to hide their ignorance; *but 'tis fit (as* Plutarch *speaks) to discover it, and to endeavour to heal it.*

* In lib. Hip. de Aliment. Comment. 3. Text. Pharmacia.

Such Learned Men, who have not had their minds darkned by vain and prejudicate Opinions, have had far other thoughts of Chymistry: *For* Mathiolus *writes to* Andrew de Blau, That no man can be an ordinary, much less a compleat Physician, who is not well exercised and versed in Chymistry. *But what need is there to alleage the Testimonies of Learned Men in the case?* Nature *it self fights for* Her, *which, without this* Art, *cannot produce so much as one grain of* Seed, *as shall be demonstrated:* Hippocrates *was very well skilled in this Ancient Doctrine, as will easily appear; Yea, He commends it to all the true lovers of* Physick: *Nay, without this* Art *the enemies and opposers of* It *would live like Bruit-beasts, not having an House to defend themselves against the injuries of the Weather; for they would want* Lime *and* Brick *for building: neither would there be* Glass *for Windows, nor* Looking-glasses, *or* Spectacles, *necessary helps for*

Lib. 4. Epid.

for Old-Mens eyes. Yea from whence could the least gain be expected? unless the melting of Minerals, and the separating of Metals had been found out by Chymistry? *Were it not for* This Art, *Printing would fail, Nature of her self would never bring forth* Linnen, *nor* Paper, nor *Ink to Write, or Print with; neither should we have any* Colours, *of which this necessary and noble Art hath produced an infinite number; for* Cinnabar, Ultramarine, Blew, Minium, Ceruſſe, Purple, * Aurum Muſicum, *and the temperature of other Colours, are the products of* It: *Yea, who can enumerate all the Benefits arising from this* Art, *for the use of Mankind? The whole Northern Region, as well as my own Country, owe much to this Art; for hereby is made a Drink out of* Barley, *which is called* Ale, *or* Beer. *Now* Barley, *as* Galen *teacheth, if it be a little boiled, causeth Windineſs; if boiled to an higher degree, it occasions Obſtructions. But our Ancestors being inſtructed by* Hippocrates, *through the help of this* Art *have excited the inſtruments of Nature in* Barley *it ſelf, and have changed it into a new Seed, no longer called* Barley *but* Mault. *They boil this* Mault *after it is grinded, and again excite the inward Organs to Alteration, which action is called* Fermentation, a Fervendo. *After this manner, as* Hippocrates *inſtructs us, is this moſt wholeſome Drink made of It.*

* *An Artificial Gold uſed much in* Italy *by Painters.*

But what do I ſpeak of Beer? The Juice of Grapes, of it ſelf, would never be made Wine, *unleſs Art did concur to ſtir up the Organs in it to Operation. The like may be ſaid of* Bread, *which in the abſence of this* Art *could never be compleated, unleſs the inſtruments of Nature in the* Meal, *by a proportionate degree of Fire and Water be excited from without? For when* Theſe *begin to act upon one another, for want of new matter, the* Lump *or* Dough *firſt ſours, then by degrees it putrefies, and at laſt breeds Worms: But* Art *retards, or hinders the Operation of thoſe Inſtruments by vehement Heat or Cold, and ſo the Work is perfected, and* Bread *made, which is ſo neceſſary for the Suſtentation of Man's life.*

Wine. Bread.

Neither do Aliments *alone ſtand in need of this* Art, *but alſo the moſt Wholeſome and Effectual* Medicines *cannot be made without it, as amongſt others; We may ſee in* Treacle; *for unleſs the infinite Inſtruments of Nature in the* Simples, *which make up that* Compoſitum, *be united by Fermentation, and ſo ſuffered to reſt, it would be altogether uſeleſs.*

* Lib. De Viribus Cordis. Tract. 2. c. 4.

For *Avicen *says, That*, That Medicine is of double Vertue which hath suffered Fermentation. *For which cause the Inventor thereof, being well skilled in Chymical Operations, adds* Wine, *that the Work may be more readily done. For all Natural things are transformed by* Fermentation, *as is plainly seen in the* Juice of Grapes, *in Brewing of* Beer, *and in Making of* Bread.

Obj.

But it is alleaged, though Reason and Truth it self do evidence these things to be so; yet notwithstanding the Novelties which you introduce into Philosophy *and* Physick, *and the Mineral and Metalline Remedies prescribed by you, which are very contrary to Man's nature, and were unknown to Antiquity: These are the things which we implead and oppose.*

Ans.

I answer. It is an impossible thing to introduce Novelties *into the World; but to perfect, alter, throughly to mix and compound things introduced already by the Creator, is very possible. This* Hippocrates *teacheth, and it is allowed to Art. So Flax or Hemp, by various alterations is made* Paper: Grass *by the like Alterations is changed into a* Glove, *and also into* Glew. *The* Juice of Flowers *by a various Alteration is made* Honey; *and* Honey *in like sort is changed into* Hydromel, (i. e.) *Mead or Methegling (a most pleasant Drink in* Lituania, *nothing inferior to Spanish Wine) and at length it turns to* Vinegar, *which is afterwards easily reduced to Elementary* Water. Bread-corn *by Alteration is made* Hot-water. *Sundry* Simples *gathered together and mixt in one, by Fermentation become* Treacle. *So, since* Hippocrates *his time*, Cassia, Sena, Mechoacan, Cremor Tartar, *and infinite other things are found out, which he made no mention of; which yet are not* new, *but only retrieved and brought forth into use again by long Study and Experience. So that we may boldly say with the Wise Man*, There is no new thing under the Sun. *Whatsoever therefore the Followers of* Hippocrates *have handed out, and as it were Mid-wifed into the World, the same* was *from the beginning, though our eyes were not so clear-sighted, as to discover it. But* Stephen Pasquier *answers this Objection very Elegantly*,

There is nothing made which was not before, but things throwly mixed and severed, are altered. L. 1. De Diæt.

Eccl. c. 1. v. 10.

Dicitur esse novus, nobis Paracelsus, ob idq;
Crimen, in obscurum pellitur exilium.
At novus *Hippocrates*, novus est *Chrysippus*, & ipsi
Roma Æsculapiades, tempore quisq; suo.
Qui nova damnatis, veteres damnetis oportet,
Aut ista nihil est in novitate novi. Englished

Engliſhed thus,

Some Paracelſe *of Novelty impleat,*
For which Judg'd Crime he erſt was baniſhed.
So Hippocrates, Chryſippus, *and at* Rome
Aſclepiade *too were* New, *They'd all one Doom.*
They who condemn new *things, condemn the* old,
Or elſe do both miſ-judge, and are o'r bold.

As for Mineral *and* Metalline *Remedies, neither theſe were not newly introduced into* Phyſick, *but were in uſe among the Ancients. For* Treacle *that moſt ancient Compound, is altogether Ineffectual without* Chalcitis; Alkermes *takes into its compoſition* Lapis Lazuli, *and* Gold, *the perfecteſt and nobleſt of Metals. The ſame* Meſue *made Pills of the ſame ſtone of good uſe, in Melancholy and Madneſs; which latter* Practitioners *guild over with Gold or Silver.* Gold.

At Vilna, *the Metropolis of* Lituania; *I knew a Silver-Smith, a luſty Fellow, a Batchellor, unlearned, yet of ſo happy a memory, that in his own Mother Tongue, he could repeat almoſt word for word whatſoever he had once heard. This man from his youth to that very time, which was the 47th. year of his age, had accuſtomed himſelf daily to eat a little of the filings of Silver, as he was at work, and he firmly believed that the uſe thereof encreaſed his memory.* Silver.

Emeraulds, Rubies, Jacinths, *do they not enter into various compoſitions, which we call Cordial ones?* Gems.

Sulphur *is daily preſcribed in the Diſeaſes of the Lungs, and is praiſed by* Dioſcorides *a very Ancient Writer.* Sulphur.

Iron *is commended by the Ancients in the Diſeaſes of the Spleen, and we uſe it at this day with good ſucceſs; Mineral Waters were in great veneration among the Ancients, and* we *alſo have recourſe to them every year in deſperate caſes.* Iron.

But what will they ſay of Salt, *without which Man's Life cannot be ſuſtained, and which we uſe every day in ſeaſoning our Meat? Is that a new Invention? or had the Ancients no knowledge of it? yet it is excocted not only from the* Sea, *and from* Fountains, *but there are beſides* Mountains *and* Mines *of native ſolid Salt, like Marble; out of which it is hewn, and grows again, like Stones in Quarries.* Salt.

I my ſelf have ſeen ſuch in Valachia, *and near* Cracovia,

a greater Revenue arising thence to the King, *than from any other thing; which yet cannot be called a* Vegetable, *nor an* Animal; *it must therefore needs be a* Mineral.

So for external Remedies, The Ancients never composed their Oyntments, Plaisters, Collyries, *and such like, without* Minerals *and* Metals.

Lead. *Of* Lead, *mix'd by Chymical Art, with Vinegar they made* Ceruſſe *for the Unguent and Plaister, which is called* White; *of* Lead *is made* Litarge, *of which is made the* Emplaſtrum Triapharmacum: *All these were found out by the Ancients.*

Copper. *Of* Copper *and* Vinegar *by the same Art is made* Verdigreaſe, *which enters into the composition of the* Egyptian Oyntment, *so called from its Swarthy colour, the invention also of the Ancients.*

But why do I spend time in mentioning these things, there is not an Old Woman in Italy, *but will inveigh against the opposers of this* Art? *for without* It, *it is impossible for them to find out ony thing to Colour and Dye their Hair.*

In a word, whatsoever Famous and Excellent thing is performed by Art, *it proceeds from the foundation of This Ancient* Philoſophy; *though men know this well enough, yet they* L. 1. De Diæt. *are ashamed to speak it out. The Old-Man,* Hippocrates, *admiring at this stupidity and turning to his Followers, says (smilingly and with a low voice)* The Divine Mind hath instructed men to imitate her Works; they know what they do, but are ignorant of what they imitate. *They are* Hippocrates *his words. So that,* Hippocratical Chymists *do not endeavour to produce* new things, *but to recal from Oblivion, Things approved by the* Ancients.

It is further objected, That the strong Remedies of Quick-ſilver, *and* Antimony *do evince the ignorance of* Chymists; *The use of them being abominable, and taken at Mouth, they oftentendanger Life.*

As if *Lapis Armen. Lazuli*, and Unguents of Quick-ſilver, were pleaſant.

As for the ignorance objected, I wonder not at it, for it is an Epidemical *Disease in all Professions, and especially in* Phyſick, *which of necessity takes it original from this* Ancient Art. *This made* * Hippocrates *to say, That* Physick was indeed the nobleſt of all Arts, but it was depretiated by

* De Lege.

reaſon

reaſon of the ignorance of thoſe who practiſed it. *'Tis* ignorance *therefore which occaſions all the Miſchiefs in* Phyſick; *neither doth it raiſe greater envy any where, than amongſt thoſe who follow not the* Chymical way *of Practice, whoſe envy ſometimes appears in their looks: So that now a-days a* Physician *is ordinarily deſpiſed, and expoſed to the Scoffs and Taunts of Facetious Wits: Oh, where is the* Majeſty *wherewith* Physicians *did once ſhine amongſt themſelves? What's become of the eſteem and brotherly reſpect one towards another, which* * Hippocrates *ſo much commends? In our age one* Physician *undervalues another, carping at what he ſays or does; yea, he quarrels at, and oppoſes (behind his back) That which he underſtands not; extolling himſelf amongſt the ignorant Vulgar, for the ſordid hope of a little Gain. If ſuch perſons by the help of our* Furnaces, *had learned that the Principles of* Chymiſtry (i. e.) *The Inſtruments of Nature, according to* Hippocrates, *were the Foundations of Medicine,* Phyſick *had never been divided into ſo many Sects, as it is at this day. For now there is a Sect riſen which divides* Phyſick *into two parts,* Chymical *and* Galenical, *againſt the mind of Old* Hippocrates, *who never mentioned but* One, *neither did* Galen *take notice of any ſuch diviſion. The opinions of* Hippocrates *and* Galen *ſeem too prolix to theſe men; for they are contented with a few Rules, and though ignorant of the inſtruments of Medicine, yet do pride themſelves in being accounted and called the only* Canonical *Phyſicians by Old-Wives and Plebeians.* Galen, *who was addicted to no Sect, yet moſt accompliſhed for Learning and Prudence, calls ſuch men* Servi, *for* He *was willing to conſult with all ſorts of perſons; Fiſher-men, and men of the loweſt rank, with rude and unskilful Plebeians (why then doth* Sennertus *in his Book* De Conſenſu, *chap.* 4. *impute This as a fault to* Paracelſus) *not only that he might eſcape the cenſure of* Hippocrates (*who alſo was not aſhamed to ask queſtions of plain Countrey-men in the beginning of his Book of* Precepts) viz. *Ignorance, but alſo that he might be able to diſcern Truth from Falſhood: For that quick-ſighted perſon knew very well that nothing could happen more Calamitous to the Sick, than to lay credulity, preſumptions, opinion, and uncertainties, as ſo many Syrtes and Quick-ſands for the foundations of* Phyſick. *And though*

* De Decenti Ornatu.

Simplicity

in Galen's *time Natural Philoſophy, which now we call* Chymiſtry, *was confined within a few mens breaſts under an Oath of Secreſie, yet for the ſake thereof* He *travelled over all* Egypt, *where that* Art *moſt flouriſhed at that time; which ſhews the wonderful Curioſity and Diligence of the Man: for returning into his one Country, he diſtributed divers rare Medicines, which he there learned, among ſeveral Phyſicians, his Friends; That ſo they might be approved by their Experience. Thus he wrote of the wonderful efficacy of* Fire *and of* Treacle *to* Piſo, *a Piece moſt worthy to be read: And he highly extols* Æſchiros, *the Empirick, his Maſter, from whom he learned how to* burn Crabbs.

De Simp. Med. f. 18.

Wherefore Galen's *Praiſe remains entire, and He will always be accounted a moſt ſagacious Perſon; To whom, as well as to* Hippocrates, *a Reverence is due, as to the beginners and producers of many, if not all Good Things.*

So that Natural Philoſophy (now ſtyled Chymiſtry) *according to* Hippocrates, *is a moſt Ancient Science, being derived from the Greek words* 'Als, *ſignifying* Salt, *and* Cheo, *to Melt: Hence came the word* Alchymy, *as much as to ſay,* The Art of melting Salts. *And 'tis rightly called ſo. For Nature her ſelf can produce no fruit at all, unleſs the Internal Salts of the Seeds be diſſolved in the Earth (as I ſhall Ocularly demonſtrate:) And theſe once diſſolved, do again act upon one another, and ſo ariſe into a Plant for its peculiar uſes, and then they ceaſe from their labour; for as* Hippocrates *affirms,* One Spirit draws too, another thruſts from, both doing the ſame thing, and it inclines to either part (the Encreaſing and Vegetating) and ſo they imitate the nature of Man.

The Chymical Philoſopher, inſtructed by Hippocrates, *takes theſe Seeds thus brought by nature to Maturity, and in them conſiders thoſe Two* (Salts) *the Organs of Nature,* viz. *Fire and Water; and by Art, he urges them to action, by melting the Salts according to Natures Law, as* Alchymy *teaches, and then a new thing is produced, which was not before; for Example* Bread, *In This the* Hyppocratiſt *or* Chymiſt *again takes into conſideration, the Inſtruments of Nature; which he further aſſiſts by his helping-hand, melting the Salts; and imitateng Nature, he again brings forth a new Production, which*

we

we call Vinegar: *Now the* Chymiſt *obſerving that in this Vinegar the* Fire *doth exceed the* Water (*our Maſter teaching*, That no Sapor ſhould overcome by its proper faculty:) *He therefore conſumes the* Acid *part by its contrary, and a'n divides the* Fire *from the* Water, *and ſo a new Production called* Hot-water *is generated; which afterwards by the occult help of Art, is fixed into an* Alcaly; *and ſo the Curious* Hippocratiſt *goes on mixing and altering, till he obtains his intent: And at laſt he deſtroys both the Inſtruments or Faculties by repeated meltings of the Salts. And thou h hereby he may ſeem to ignorant Perſons to have produced ſome* New *things, yet there is no ſuch matter, for the things are moſt* Ancient, *only he melts and re-melts the Salts as often as the Laws of Nature will permit; which is not beyond the* fourth *Repetition, as* * *Learned Men with reaſon ſay. But of this enough at preſent.* Hippocrates *ſhews that this repeated Fuſion-melting, and Exaltation of Salts, honoured by the Ancients with the Title of* Alchymy, *hath place, not only in the* Vegetable, *but alſo in the* Mineral *Kingdome; for, ſays he,* Gold workers do beat Gold, waſh it, and melt it with a ſoft Fire, for it will not be made up with a ſtrong. *By which ſaying he diſcovers the ignorance and unskilfulneſs of Thoſe, who write that* Chymiſtry *is exerciſed about the ignoble fuſion of Metals and Minerals, as if theſe would be melted with a* ſoft *Fire; but the contrary is well known to ſuch who have overſeen either of them to be melted; for Gold requires not a gentle, but a very ſtrong Fire; Wherefore the Philoſopher doth not here underſtand this rude way of Operation, though he takes his beginning from it; which he preſently clears by a plain familiar example:* Man, *ſays he,* doth threſh, waſh, and grinde Bread-corn, and baking it, he uſes not a ſtrong Fire to make it up in a body, but a ſoft and gentle one.

Wherefore the Fire of the Chymical Philoſopher *in the extraction of Animals, Minerals, or Vegetables (called* Small Elixirs *by the* Modernes) *muſt be moderate.* Hippocrates *teaches,* All things to be like which were unlike. *But as ſoon as Fire exceeds the degree of being* moderate, *'tis no longer the* Philoſophers *fire, but* the Artiſts; *for then things are not* advanced *by the intervention thereof, but are* altered *thereby, as our* Maſter *teacheth in the fore-cited Book.*

* Dee, Holland, &c.

L. 1. De Diæt.

Galen *had no knowledge of Metals, or of* Quick-ſilver.

Who-

Whosoever therefore do apply themselves to the Fusion *or* Liquation *of Salts, either with a* gentle *or a* vehement *heat, They all have their dependance on this* Ancient Chymical Philosophy; *So that such persons are in a gross and ignorant Mistake in the judgement of* Hippocrates, *who exclude Apothecaries from this Art. For when* Pharmacopæans *do pound Vegetables, and wring out their Juice, then it is that they make a fusion of Salts, expelling and thrusting out the Exotick and Forrain, not being of one and the same temper (they are* Hippocrates *his words) but when they condense the melted Salts with Sugar into a Syrup, then they throughly mix and alter them;* So 'tis, *says* Hippocrates, with the nature of Man, all Arts communicating with humane Nature.

Wherefore if Nature *do precede* Art, *and* Art *doth but imitate* Nature, *there is no man under the Sun, who hath not within himself, as it were a Chymical and Salt-melting shop; only the* Canonical Physician, *who bears an hatred to the opinions of* Hippocrates, *by reason of his ignorance of this* Ancient Art, *excepts himself, as being altogether unacquainted with this divinely inspired* Science. *And by means of such* Ignoramus's, Physick *is accounted the meanest of all Professions, for it hath no foundation to build upon: Of such* Ignorants, Seneca *speaks,* That they are always learning, but never attain to the knowledge of the Truth.

Ars Glaucor. initio. *and* lib. 1. De Venæsect: adversus Erasist.

Hence it is that Galen *in his rich Writings approves and commends* Hippocrates *to us, as the Guide and Author of all Good, which* Epithites *he frequently bestows upon him; thereby eternizing and consecrating his Name to Posterity.*

This so well grounded opinion of Galen, *hath moved me, never, as long as I live, to admit of any other Doctrine in* Physick *but that of* Hippocrates, *which I believe will be Coævous with Nature it self.*

Otto

Otto Tachenius,

HIS

HIPPOCRATES CHYMICUS.

The Occasion of writing the Ensuing Treatise.

CHAP. I.

THE perfect knowledge of all Sciences is so difficult, that the Life of Man would sooner be at an end, than he can attain unto the compleat understanding of any one of them, (so as to be put beyond all dispute) by the help only of * Paper-books. *Socrates* having made a through disquisition into almost all Sciences, was then judged the wisest of men by the Oracle; when he openly professed, that he knew nothing at all: This the Preacher seems to confirm to us; *I beheld*, says he, *all the Works of God, that a man cannot find out the reason of the Works which are done under the Sun, and the more he labours to find it out, the further it is off; though a wise man think to know it, yet shall he not be able to find it out.* The Divine *Hippocrates* was not ignorant of this difficulty of obtaining knowledge in our Art of Physick, which made him ingeniously to confess it in his * Epistles to *Democritus: For*, says he, *though I am an old man, yet I am not arrived to the true knowledge of Physick:* And the same person avers, * *That our life is too short for the acquist of any*

A man knows only so much as is certainly discovered to him by either Mental or Manual Operation and Experiment.

* Which yet are not wholly to be rejected.

Eccl. Cap. v. 17.

* In Epist.

* 1. Aph. 1.

one Science, from the very Foundation thereof. Hereupon he advises us, to honour and esteem those which have endeavoured *to search out the hidden works of Wise Nature*; adding withal, that *no one of them could be justly blamed, though he were not able fully to find them out.* But it seems the Writer who reformed the *Augustane* or (*Auspurgh*) Dispensatory, was of another mind; his Book was printed at *Tergow* by *William Vorhoven*, A. D. 1657. Upon occasion of that Book, a few days since, my respected Friend, *John de Lanou*, a Famous Bookseller of this City, asked my advice, whether I thought it worth his labor to Print it here, *&c.* 'Tis true, I had heard of the Title before, but I had never seen the Book, for I had not so much leisure as to spend my time in reading such *Pieces*: Nevertheless, upon that occasion, at spare hours I read it all over, and could not but take notice of, and wonder at that corrupt Custom (so familiar to him and others, against the direct Precept of *Hippocrates*) that whatsoever a man had honestly found out by great Labour and Study, and had commended it to Posterity in writing for the good of the Publick, the same should presently be traduced, defamed, and spurned at amongst the Ignorant Vulgar, not by force of Reason and Experience, but by monstrous Calumnies and Reproaches, that so (like *Herostratus*) they might procure some fame to themselves, by the ruine of other mens Credit. The Reformer of the *Auspurgh* Dispensatory treads in those steps, railing and declaiming not only against the Ancients, but the Moderns also; Followers of *Hippocrates* and *Galen*, in such sort, that there is hardly an Arrow in the Quiver of Slander, which he shoots not at them. I had formerly instructed this Man in the way of making *Viperine Salt*, but under a Metaphorical disguize (for I had denied to teach him in plain terms) and now he proclaims me for a Cheat, and that *I hinder by Imposture the making of it publick*: I ingeniously confess, that here, at least in part, the Reformer speaks truth; for whatsoever made Physicians who were lovers of Truth famous heretofore, the same things Impostors do craftily adulterate. Our *Hippocrates* was afraid

L. 1. de Diæt.

Pharmaco. c. 487.

fraid of ſuch Cheats, which made him conceal his Anti-peſtilential Medicament, by which he had procured ſo much Honour to himſelf, and had happily and ſecurely cured that Diſeaſe, as his Epiſtles do teſtifie.

Paracelſus did alſo dread Impoſtors, who by his wonderful Art cured the (otherwiſe incurable) Contagions of the Body, as his Epitaph ſpeaks, which may be ſeen graven on a ſtone at *Saltzburge*, in the Hoſpital of *S. Sebaſtians*.

In our dayes *Lazarus Riverius* feared the like Cheats, and for that cauſe he publiſhed his *Specifique* againſt *Feavors* under a Metaphor. So *Helmont* very prudently vailed the Liquor which (with *Paracelſus*) he calls by a corrupt Name *Alcaheſt*; which yet is not free from Adulterators; but inſtead thereof the Reformer ſubſtitutes *Vinegar*; * hereupon, being inſtructed by my loſs, I became my own School-maſter, and have often thought upon that Saying of *Eſcheurenterus* to *Gratarolus*, *Thou knoweſt on eaſier terms the Sentence paſſed at* Bononia, *that he was proclaimed a Traytor to his Country, and worthy to be hanged, who firſt made a Filatory at* Trent *in* Germany, which is an Engine whereby Raw Silk by Spindles is artificially drawn into Threads.

So that I have hitherto concealed That which might ennoble a Phyſician, being jealous, not without cauſe, leſt by my ſluggiſhneſs and neglect, it might fall into the hands of Impoſtors, and thereby the worthy and the unworthy ſhould undergo the ſame Fate.

But the earneſt importunity of this * Reformer hath cauſed me to ſelect ſome things out of the heap of my Obſervations and Experiments (which I had deſigned only for my own uſe) and now to make them publick; yet ſtill I keep to the Precept of † *Hermes*, *That the Wiſdom of the Author ought to be greater than his Book.* But I muſt follow the Clew of inevitable Fate; and I undertake this labour the more willingly, that I may diſcover the right way to thoſe that wander, and may bring back Straglers into it: As alſo, that thoſe who have hitherto oppoſed this Art, might at length correct their miſtakes, and begin to be wiſer: And further alſo, that

* *In Append. f. 72.*

* *Pharmac. 487.*

† *Libro Raaic.* None are worthy of the name of Teachers, but ſuch who teach by ſure Principles and cauſes. *Ariſt. in Prooem. Metaph.*

that they who practise it, may assuredly understand that it is founded on the Principles of Nature; and so for the future may be delivered from the crafts and deceits of Sophisters and Impostors. In this work, I mind more the Truth of the Cause, than the Ornaments of Elocution; for the speech of Truth, says *Euripides*, is plain, neither matters it therein what stile we use, especially since *Cicero* doth not require Eloquence in a Philosopher, much less doth *Celsus* in a Physician: For as *Plato* saith, when we dispute of *things*, the rudeness or the elegancy of *words* are not to be heeded, but only that satisfaction may be obtained, as to the Doctrine of the things themselves; neither have I inserted florid disputings, or odious altercations, but whatsoever offers it self more occultly to the Senses, that, Experience being my guide, I have despoiled of its coverings, and have exposed the truth of things naked to the eyes of all beholders, so that every individual man may know it; for Truth loves brevity, not disputation. By this Compass I have Steered: Draw near therefore, all ye Lovers of Truth, and you shall behold things (both admirable and pleasant) with your eyes, yea and handle them with your hands, which have hitherto stood remote from our sensation and knowledge. Now to the work it self.

Three words are sufficient in a just cause.

Qui nimium properat, serius absolvit.

Or,

No more haste, than good speed.

CHAP. II.

* *Pharmac. f.* 481.

THe * Reformer begins with a lofty Brow: *Now*, says he, *let us come to the examination of the Salt of Treacle of the Ancients, whose preparation was so Childish and absurd, that their simplicity did no where more appear than about it*, &c. And a little after, *Animals only have Volatile Salt, and in a violent Calcination, leave commonly nothing behind them, save only* Terra Mortua; *yea, the rest*

of

of their abſurdities are not to be paſſed over in ſilence, in that they ſubſtituted Sal Armoniack *in the place of Common Salt, not at all, as I perceive, underſtanding the matter, becauſe all the* Sal Armoniack *is vaniſhed into Air, and ſo there remains nothing to them, neither of the Vipers, nor of their added Salt.* Thus he.

Do not raſhly condemn the guildleſs, not having throughly weighed their cauſe.

But for my part I cannot ſee that the Ancients deſerve to be accuſed of abſurdity or ſimplicity in this thing, ſo as to incur the undue reprehenſion of the Reformer: ſo that before we judge, we are to hear, and that both ſides; and we ought to find out what the *Sal Armoniack* of the Ancients was, and for what reaſon they ſubſtituted it in the room of Common Salt? and for what end? and wherein their offence lay? ſo as to merit the raſh anger and bitter deſpight of this Reformer.

To make theſe things more plain, it is neceſſary that we dive into the ſecret nature of certain Salts, in order to the examination and underſtanding of them, and of the differences between them, by accidents proper to them, and known to Senſe, and that not by Logical and convertible Syllogiſmes, or imaginary Non-Entities, but by an Experimental and Natural Hiſtory: I ſay then, and am ready to prove, that not Animals only have Volatile Salt, but, againſt the Opinion of this Reformer, that all Vegetables alſo have not a grain of fixed Salt by Nature, unleſs they acquire it by Art. But firſt I will ſpeak of things more known, proceeding afterwards, by degrees, to thoſe which are more occult. *Pliny* witneſſeth, that Natural *Sal Armoniack* was in great uſe amongſt the Ancients; *It is found,* ſays he, *in* Africa, *in the Country of* Cirenia, *till you come to the Oracle of* Jupiter Hammon *in lumps, ſomewhat long, and under the Sands.* *Diaſcorides* confirms the ſame, that *Sal Armoniack* is praiſed from the Country where it is found. This Salt endures conſtant in the fire, being, after its manner, of a more Salt-acid reliſh, than our common Trencher-ſalt, as I ſhall ſhew; and therefore the Ancients found it more advantagious for Medicines, and for that cauſe have more commended it to us: But that which is brought to us is not in longiſh lumps, neither is

No imaginary things here.

L. 1. *Ch.* 7.

is it Natural, but is made by Art, *viz.* of the Natural, and of the Volatile Alcaly of Animals, as the reſolution of it ſhews, according to the Axiom of * *Ariſtotle*, for it is divided into an Acid Spirit of Salt, and alſo into a volatile Alcaly (all ſalt things are divided into two ſubſtances, *viz.* Alcaly, and Acid, as I ſhall ſhew by degrees) both which being ſeparated, and again reunited, become the *Sal Armoniack* which it was before. The Acid part or Spirit, hath all the properties of that which is diſtilled from Common Salt; but the Alcaly is of the ſame nature with that which is ſublimated from Mans Urine, only 'tis not ſo ſtinking: Whence I conjecture, that they choſe Camels Urine, not Mans, for the compoſition: For the Urine of Camels, as *Pliny* obſerves, is more profitable for Fullers, than the Urine of other Animals, from whence there muſt needs be a richer Alcaly; perhaps becauſe they eat no Salt, as other Animals do, for common Salt doth not waſh out, or cleanſe; therefore Nauſicca, *the Daughter of* Alcinous, *waſhed her Linnen in a Fountain on the Sea-ſhore*, as *Homer* records.

* All things neceſſarily conſiſts of that into which they can be reſolved.

L. 28. *c.* 8.

Odyſ l. 6. from *verſ.* 85. to 96.

But Artificial *Sal Armoniack* is made after the ſame manner as Sope; for Nature works alike in every thing, as * *Hippocrates* ſays, to wit, of the Acid part of *Sal Armoniack*, and the Alcaly of the Urine of Camels (or of other Animals, 'tis all one) I have made the like Salt from the Alcaly of Soot, and the Acid Spirit of Salt, (for want of other) for the Urine doth diſſolve the Salt by Maceration; and the Alcaly of the Urine, which otherwiſe in a few days would vaniſh, here being delayed and ſtop'd, finds the Acid which it imbibes; and ſo of the Acid part of the Salt, and the Alcaly of the Urine, a new Artificial Creature is produced of a ſalt reliſh: But that which is not of the ſame nature, nor † accords with this new Salt, of its own accord is ſevered, and ſinks to the bottom. The clear Salt liquor ſwimming at top they boil and ſcum, and again ſuffer the *Faces* to ſettle, and at laſt coagulate it into a Cake. This is the *Sal Armoniack* which is brought to us, but it is not that which the Ancients choſe for Salt of Treacle, as the Reformer gueſſes; but

* *L.* 1. *de Diæt.*

Sal Armoniack.

† *Hip. l.* 1. *de Diæt.*

but that is the Natural which is found under the Sands (ἄμμος) as *Pliny* ſhews in the fore-cited place; of which I ſhall ſpeak more clearly in the Progreſs of this Work; but before I proceed, I muſt explain more fully what *Alcaly* is.

CHAP. III.

Sal Alcaly, *what it is.*

IT is not my purpoſe here to deduce the matter, *ab ovo*, as they ſay, or from the very Elements, but to manage a Demonſtration concerning things Phyſical, Natural, Material, and known by our Senſes. Know then, that *Salt-Kaly* is made of the Herb *Kaly*, coming in great quantity out of *Egypt*, which is there burnt whiles it is green, and ſo brought over to us, and is called by ſome *Soda*, and *Alumen Catinum*, but the right name is *Sal-kaly*. This Salt is not found in Natures three Kingdoms, unleſs it be produced by Art, through the help of Fire; whence it is that this *Virgin* is ſaid by the Ancients to have three Fathers, *viz.* Nature, Fire, and the Philoſopher.

I call the Senſes the Guides of Life, and of all its Operations

This *Sal-kaly*, as other Salts, is part of the *Compoſitum*, yet deprived of its ſeminal vertues, only it hath an abſterſive, Sope-like, and reſolving property; and by reaſon of this inanition, being as it were without form, it ſucks up and imbibes all ſorts of Acids, (the Ancients call it impregnation.) Hence it is that all Salts which do mortifie Acids are called by one general name, *Alcalies*, which are found not only in the vegetable, but alſo in the Animal and Mineral Kingdoms: And in theſe three, there are ſeveral ſorts of them, *viz.* fix'd, volatile, manifeſt, occult, and of a middle nature, taken from parts of Animals which are to be demonſtrated to the eye. But firſt I ſhall begin with that which is more known, which is found in a Flint, which conſidered, *quatenus*, a Flint, is thought by the unskilful to be under the Regiment only of one Rector; but the skilful Glaſs-

Alcaly is *inane* and empty.

Glaſs-men of *Murano* have obſerved, that though taken from its Native place, it weighs 100 *l.* yet it yearly acquires 10 *l.* or * thereabouts, to its weight. Hence the *Hippocratiſt* learns, that *Jovis omnia plena*, yea that it receives nouriſhment from the ambient Air, but as ſoon as the External and Artificial Fire ſupervenes, then the skilful Operator ſometimes converts it to Glaſs, and ſometimes to Calx or Lime: So that the *Hippocratical* and *Chymical* Philoſopher comprehends two different Faculties in a Flint (being ſo inſtructed by his † Maſter Fire and Water ſo called, for the two reaſons which conſtituted a Flint:) Theſe Faculties the Chymiſts alter by the help of a due Fire, which alteration is called *Incineration*, for of its own accord it turns to a Powder, whence it is called by a common name, *Calx* or *Lime*.

* *Colnopolita* ſays, that the occult Food of Life is in the Aire.

† *L.* 1. *de Diæt.*

In this *Calx* or Calcinated Aſhes, the Chymiſt again comprehends the above-named Faculties, which for our better underſtanding, we will now once for all, * and at all times hereafter, call the *Acid* and the *Alcaly* from their effects.

* *Acid* and *Alcaly* the inſtruments of Nature.

Calx then, or Lime, hath two Salts, or (as *Hippocrates*) two Faculties in it ſelf, the *Acid*, and the *Alcaly*, both moſt conſtant in the fire, and one contrary to the other; and when the *Calx* is ſprinkled with water, then the Salts are diſſolved, and act upon one another. The *Alcaly* ſucks in, and acts upon the *Acid*, and this again aſſumes the *Alcaly*, not for the deſtruction of either, but for the Production and Generation of a new thing, and whatſoever they lay hold on in that Generation, not being too heterogeneous from their natures, is concreted with them into the hardneſs of ſtone; ſo one contrary is coagulated by another.

That the Fire is *Acid*, the Water *Alcaly*, I will ſhew in its place.

This knowledge of *Calx*, if the Reformer had learned out of *Hippocrates*, the Poor Man had never gone about the fixation of viperine *Alcaly* with *Calx*, as with a lamentable voice he declares in his Diſcourſe concerning Salt of Treacle. After the *Hippocratiſt* hath learned, that according to the Laws of Nature, *Calx* is petrified by contrary Faculties, then he reminds the Leſſon of his Maſter and Inſtructer, *viz.* that like is to be diſſolved

Pharmac. f. 485. Contraries are coagulated by contraries.

ved by like, and that not only in Artificials, but in Naturals, especially in Physick, and Humane Bodies, as will anon appear; *for Arts do imitate Humane Nature*: they are *Hippocrates* his words, who also teacheth, *That agreeable things adhere to one another.* *Hip. l. 1. de Diæt.*

CHAP. IV.

Alcaly *and* Oyl *are made Soap.*

Calx, or Lime, as I have said, hath two different Faculties, *Acid* and *Alcaly*: I have shewed before, that *Alcaly* hath at least a Soap-like and absterfive vertue, which *Hippocratists* have taught to extract and separate by its like: Therefore Soap-men add to the *Calx* a factitious *Alcaly*, burnt out of Vegetables in a triple proportion, because it mortifies the *Acid* part in the *Calx*, and melts the other part by its like; wherefore they moisten a little the Alcalized Ashes, with which they cover over the unslacked *Calx*, and so leave them, until the Lime or *Calx* falls asunder, as a sign of mutual action; then they mix them together, and pour on water, that the Mass may become moister (according to the Rule, *Salts act not unless they be dissolved*) then with a sufficient quantity of water they extract the Lixivious Fiery *Alcaly*; (I call it Fiery, because this boiling *Lixivium*, or Ley, consumed in a moment a Drunken Man with his Woollen Cloaths, so that nothing of him was found but his Linnen Shirt, and the hardest Bones, as I had the Relation from a Credible Person, Professor of that Trade) which Fiery *Lixivium* they call *Magistra*, which is glutted with so much *Alcaly*, that an Egg will not sink in it. Of the same mixture is made also another *Lixivium*, less saturated, which will not bear up an Egg; with this last Lye (for certain reasons) in boiling of Soap, they first mingle Oyl or Tallow, (which is contrary to *Alcaly*, as containing an occult *Acid*, as will appear by degrees) but they boil it with a soft fire till they wax white, then they add the *Magistra* in a triple pro-

Like things are dissolved by like. *Hip. de locis in homine.*

Of Lime and Honey is made a mixture good for the brawniness of the Feet.

The greater is encreased by the less. *Hip. l. 1. de Diat.* *Hip l 1. de Diæt.*

portion to the Oyl or Fat; and in boiling, the Oyl and *Alcaly* are coagulated, till they are compacted into one Body, as contraries, and throughly mixed; *For they never consist together in the same, but are always altered; so that of necessity the things severed and produced from them, must be dissimilary in their nature.* For out of the manifest *Alcaly*, and the occult *Acid* in the Oyl, is produced a thing of a Neutral Nature of a salt relish; sometimes they make tryal of it by the tongue, if the taste be sweet, they add the *Magistra*, if it be biting, it must be boiled till it hath absorbed the Oyl; but if it be more than ordinarily pungent, then they pour in Oyl leisurely at discretion, as *Hippocrates* teacheth, *Spiritus unus trahit, alter protrudit, &c. One Spirit draws to, another thrusts from, but both do the same thing, and tend to either part, and so they imitate the nature of man.* Sea-salt, because it is no vacuous and empty Body, as *Alcalyes* are, is not coagulated with fat, or Tallow into Soap, for it hath both its Faculties, not to be separated without difficulty, as I shall shew hereafter: For which cause, *Nausicaa* the Daughter of *Alcinous* washed her Linnen out of a Fountain on the Sea-shore, as *Homer* relates, 6. *Odyss.*

L. 1 de Diæt.

CHAP. V.

The Composition, and Dissolution, or Destruction of Glass.

GLass is made of the same Flint, and the same *Sal Alcaly*, by the Rule of Contraries, but not the *moist way*, (as Soap) but by a dry and fiery Fusion and Liquation: For sometimes three, sometimes two parts at least of the Powder of Flints are mixed with one part of *Sal Alcaly* (not of *Acid*, Trencher-salt) which by corrosion slacks the Flint, and absorbs it in the fire of Fusion. I say, part of the *Alcaly* sucks up the *Acid* which the Flint contains for Lime or *Calx*, and it swims a top of the flaked Flint, and is called *Arcanum Vitri*. The *Fel Vitri*, being another part of the *Alcaly*, makes a coalition with the Flint, and is saturated by it; and because

Augustin. Crell. in Lap. Medicum.

cauſe *they conſiſt not in the ſame*, as *Hippocrates* teaches, they both become a Pellucide Maſs; then Artificers ſay, the Glaſs is baked: But the *Alcaly* ſwimming a top, and ſaturated with the *Acid*, that they ſcum off with an iron Ladle, and call it *Fel Vitri*, and caſt it away as unfit for Glaſs, for by the mixture it is changed into Salt; therefore Shepherds give it to their Cattle to lick, eſpecially in places where Salt is dear; this, in moiſt weather, eaſily turns to a liquor, and then the Powder of Flints ſubſides of its own accord: The liquor by heat is coagulated into true common ſalt, as its Granulation, and alſo its Diſtillation ſhews; but the Bottom, or *Fæx*, is a Medicine not to be deſpiſed in difficulty of Urine, as alſo is Flint fired and ſlaked in water.

But this Water is ſometimes preſcribed without ſucceſs, eſpecially when the Flint is leſs heated by its proper heat, and that Diuretick vertue ceaſeth, which then periſheth and ceaſeth, when the heat of the fire doth *Alcalize* the Flint (*i.e.*) when both Faculties go together into one, for then it doth not reach to the Urinary places, by reaſon of its fixedneſs; yea, at that time it hinders and retards other things which provoke Urine, in as much as it troubles the digeſtion of the Stomach, (which is made by *Acids*) and appropriates it to it ſelf. Then the Ancients began to reduce Glaſs into Powder of Flints, by Extinction, into an *Acid* Salt, with good ſucceſs.

Burning of Glaſs.

This Reduction and Preparation which is purely Hippocratical and very Ingenious, the Reformer (like himſelf) calls *ſleight, unprofitable, inept, and by all means to be exploded. See*, ſaith he, *how baſely ſuch Putative and Wordy Philoſophers do diſcover themſelves, who are diſtitute of that Philoſophy which is true, and into what errours they fall, diſcoverable and derideable not only by thoſe who throughly ſearch the ſecrets of Nature, but even by Clowns and Ruſticks, old Wives and Goſſips: Glaſs this way prepared* (as our Reformer pungently goes on) *cannot be given without danger and hazard to a ſick man, though he be not preſently ſenſible of it.*

Pharmac. f. 732.

A monſtrous Speech is the ſign of a monſtrous Wit, ſays our *Galen.*

But I will prove againſt the frivolous Objections and Grounds of this Reformer, that he who taught this Burning of Glaſs was in the right, and I will vindicate him from thoſe Calumnies wherewith he is aſperſed, eſpecially from this, *That Glaſs this way prepared; cannot be given to the Sick without danger and detriment.*

Glaſs, whereof it is compounded, into the ſame and by the ſame it is reſolved.

Take then clear and tranſparent Glaſs, melt it with more *Alcaly*, like Glaſs, afterwards expoſe it to the moiſt Air, and you ſhall ſoon find the whole Glaſs to be reſolved into water; pour upon this a ſufficient *Acid*, contrary to *Alcaly*, and the Powder of Flints will ſubſide.

In Append. Pharmacop. Reg. l. 136.

This Powder is no longer Glaſs, but the Powder of Flints, which the Reformer abhors, and ſays, it cannot be given to the Sick without detriment, forgetting that he himſelf commends the Powder of Flints to Queens for producing of Milk. The Ancients were not acquainted with this ſeparating Art, (which was beſtowed on Mortals from above) yet they had ſome hints of it by diſcourſe; and therefore they began to extinguiſh or ſlake the Powder, or Flower of Glaſs, in Aſhes of Bean-ſtalks, whoſe Salt is of an *Acid* ſalt nature, as I ſhall ſhew by and by; they repeated the Extinction always with new Aſhes, and waſhed away the Powder of the Glaſs with water, ſo that every Extinction was the deſtruction of the Glaſs, or *Alcaly*; this they waſhed, and again extinguiſhed, until the Bean-aſhes had deſtroyed all the *Alcaly*, and had left an impalpable Powder. This is the Powder of Flints, as That before melted with *Alcaly*, and precipitated with *Acid*, which the Reformer thinks cannot be ſafely given at Mouth, ſo much as to Country people, though he commends it to Queens (as I have ſaid) to procure Milk.

The overbuſie Reformer having his eye on the Ancients, in the interim ſees not his own errours.

In this Preparation (which the Reformer out of his ſloth and ignorance) calls *ſleight*, lies hid the profound knowledge of Natural things, as will appear by degrees, and the taking of it is not at all to be feared, as the Reformer falſly teacheth: But ignorant perſons are of neceſſity ſubject to great fears.

The true preparation and knowledge of Simples, requires almoſt a mans whole life.

Rumor

Rumor sine Capite.
A Report without ground.

CHAP. VI.

THere is a way *reported* and practiſed of drawing out the Diuretick Vertue from Calcined Flint, by the deſtruction of the *Alcaly*, (that is, by a rule contrary to the *Alcaly*) with *Acid* Spirits, after this manner; into Spirit of Salt, they put by piece-meal unſlaked Lime, the Spirit is preſently abſorbed by the *Alcaly* of the Lime with great force and vehement ebullition, they draw forth the inſipid Phlegm, and diſſolve the Lime ſaturated with the *Acid* Salt, they melt it with a gentle fire in a Crucible, ſtraining it into a cold Mortar; when it is cold they beat it to Powder, (it then emitting fiery ſparks) from which, with hot water, they elicite the ſaltneſs; this they purifie and coagulate, and again ſuffer it of its own accord to run into a ſalt liquor, not unprofitable. But there are ſome Sophiſters and Impoſtors who give forth, that this Liquor is diſtilled in a *Lembick*, for they mix the foreſaid Liquor with Calcined and Powdered Flints in a fourfold proportion, and diſtil it with an open fire into an *Acid* Spirit, which by a wrong name they call *Spiritus Calcis Baſilii*. Now let us ſee to what Original or Parent, we may aſcribe the foreſaid diſtilled Spirit.

Firſt of all, the Spirit of Salt was abſorbed and ſwallowed up by the vitrifying *Alcaly*, and moſt conſtant in the fire.

Further, the *Acid* part of the Flint was ſeparated by the water, and caſt off under the covert of the *Faces*.

Thirdly, the fixed *Alcaly* of the Flint or Lime drinks up the *Acid* Spirit of the Salt, and a Salt is made of the volatile *Acid* and moſt fixed *Alcaly*.

Fourthly, they mix this Salt with the Calcined Flints (*i. e.*) with the unſlaked Lime, which abounds more with *Alcaly* than *Acid*, as I have ſhewed in Glaſs and Soap.

And though this Mixture be urged with the ſtrongeſt fire, what elſe can it diſtil forth than a volatile *Acid*? that is, the ſame Spirit of Salt which the *Alcaly* had abſorbed and drunk up: Famous and Learned men have commended this Spirit in the *Gout* and *Stone*, as a ſingular Remedy, but the ſucceſs hath not anſwered: But *Baſilius*, ill interpreted and underſtood, wrote not to Impoſtors, and therefore he is wrongfully accuſed by them for a Cheat: Rightly therefore doth the *Comædian* commend us, *If thou be wiſe, make thy ſelf ignorant of what thou knoweſt.*

An Addition to this *Examen.*

Nature, as to Phyſick, hath nothing occult in this ſublunary Globe; but by this method an *Hippocratiſt* may diſcover it.

By this Method (after you are once inſtructed in this *Hippocratical* Learning which I hold forth in this ſhort Tract) you may in every Proceſs, as well Chymical as Medicinal, by ingenuity and diſcourſe, diſcern, prove, and ſeparate Truth from Falſhood, without any expence or loſs of time, ſo as no longer to be gulled by Deceivers and Cheats; yea, by the ſame method you may in your Operations, and in writing of Books, travel on perpetually the right way (without wandering) in this Natural, Chymical, True, and Ancient Philoſophy, through all the three Kingdoms, Animal, Mineral, and Vegetable, as you will confeſs in the Progreſs.

CHAP. VII.

Qui bene diſtinguit, bene docet.
To diſtinguiſh well, is to teach well.

FOr our clearer light and underſtanding, it will be worth the while, before I proceed, to demonſtrate to the Eye the difference of *Alcalyes*, and to ſhew what the contrariety, or the abſorbing and imbibing of *Acids* is: There are, as I have ſaid, ſeveral degrees and Species of fix'd Salt-*Alcaly*, as of *Tartar*, which hath a ſingular priviledge, of Lime-trees, of Hazel, of all ſorts of Oaks, and thoſe which in the Forreſts of *Norway*, *Lituania*, and *Muſcovy*, are burnt out of green wood into

to Pot-ashes: Also all hot and Oily Herbs, as *Rosemary*, *Lavender*, *Rue*, &c. all of them, in a word, are contrary to, and destroyers of *Acids*, whose difference the following Experiments shew.

Dissolve an ounce and half of sublimate *Mercury* (which by the * mixture is changed from *Acid* and *Alcaly* into Salt) into fifty ounces of common water distilled: into a part of this clear solution, infuse by drops, yet somewhat quickly, the fixed *Alcaly* of *Tartar* (which is the Liquor of *Tartar* resolved of its own accord) this in a moment divides the *Compositum*, absorbing the *Acid*, and the *Mercury* presently goes to the bottom of a colour obscurely red.

* *Hip. l.* 2. *de Diæt.*

From the Calcined *Faeces*, or Lees of Vinegar, there is drawn forth with water, *Alcaly* of *Tartar*, which though produced out of the same Vine with Wine, yet it precipitates a *Mercury* sparkling and splendent.

The wonderful difference of fix'd *Alcaly*.

But when the same *Alcaly* is Calcined by Art to a redness, then the same *Mercury* falls down like pounded *Cinnabar*.

The *Tartar* being burnt up, if you add the *Calx*, and draw forth the *Alcaly* with simple water, then the falling *Mercury* glisters like Gold; but extracted out of the Herb *Kaly*, it precipitates a *Mercury*, much more dark coloured than the former: The *Lye*, or *Lixivium*, which Soap-boilers call (*Magistra*) which consists of the *Calx*, and *Alcaly* of Oaks, yields *Mercury* darkly yellow.

There is an *Alcaly* brought out of *Spain*, 'tis not certain whether a simple or compounded one, which yet precipitates *Mercury* of a Tawney yellow colour.

But when the same *Mercury* is precipitated with *Alcalyes* of *Cephalick* Herbs, as of *Rosemary*, *Lavender*, &c. these indeed are *Alcalyes*, but not of Ashes, as the former, but much more volatile: These, I say, cast *Mercury* red and shining.

So *Celandine* hath a wonderful *Alcaly* (so that its fifth Essence (which yet I take to be the Gift of Heaven)

He which hath not tasted the relish of Salts, shall never attain to the desired Ferment of Ferments, says the Author of the *Rosary*.

ven) (*sc.*) the *Alcalized* Liquor of this Spiritual Salt is praised, not without a Mystery, by *Paracelsus* and *Lully*) and it casts a most red *Mercury*. I once carelesly neglected the small Vessel in which 'twas put, and caused it not to be washed, and about a Month after, at the top of the Liquor there appeared a Golden Flower, not unlike the Flower of *Celandine*, (it was chamfered in its Coalition, like *Nitre*) to the wonderment of the beholders.

Arsenick, called by *Paracelsus* the Soot of Metals, fixed with *Nitre* and resolved, is not excepted.

Balsamus Sanctus.

These Examples do shew, that by how much *Alcaly* is fuller of Fire, the *Mercury* falls so much the darker, because that in the very instant of absorbing; the Fiery *Alcaly* affects and flashes against its Sulphur like Lightning; but the further it recedes from Ignipotence, the *Mercury* falls the brighter: so that volatile *Alcalyes*, as of Soot, and of all Animals, from the aforesaid Solution, do precipitate *Mercury* of a white and snowy colour; all which will more clearly appear in the Progress. So *Mercury* precipitated from the *Balsam Sanctus*, casts a snowy colour, somewhat inclining to yellow; but if you pour on more than its Nature can bear, then it turns to a glittering colour.

But salt things, of what kind soever, do not precipitate *Mercury* out of the above-named solution; yea, by how much the nearer they approach to the nature of Salts, so much the less they hurt *Acids*.

Examples follow.

Alcaly of *Saltpeter*, though its first Original be from *Alcaly* of Urine, yet with *Sulphur* being fix'd into *Alcaly*, (and therefore it tasts somewhat saltish) it somewhat disturbs the *Mercury* so dissolved, but doth not precipitate it; but if you add to this Pulverised mixture, before it doth deflagrate, and leave burning, a certain fixed and dried *Alcaly* (of *Tartar*) and keep it over a gentle fire, then first it melts the *Sulphur*, and the pinguious *Acid* of the *Sulphur* preparing for its flight, is greedily imbibed or drunk in by the *Alcaly*, which is also pinguious; as it happens in the preparation of *Sal Sulphuris* the moist way. The heat still continuing, the *Nitre* also is melted, whose sulphureous and inflamable part is associated

ciated to its like, *viz.* to the *Pinguedo* of the Sulphur; yea it is greedily received in by the *Alcaly* (a middle part of which is sufficient, in respect of the Powders, as of * *Nitre* three parts, of *Alcaly* of *Tartar* two parts, of *Sulphur* one part) and so becomes Salt. In this Salt mass, each of the Sulphurs doth boil, or bubble up, and the fire continuing, and being increased, they take flame, which in the kindling, not enduring the narrowness of place in the Salt, bursts out into the Air with a noise like Thunder: That these things are so, the *Alcaly*, which is sometime left behind, may inform us, especially when it is kindled not in a Concave, but in a plain place, and very leisurely; for then it is changed by the *Acid* Spirits into Salt, and doth not any longer precipitate *Mercury*. Hence by the way we may learn, that

* *Sal Fulminans.*

This is the ground why *Ceraunocryson*, or *Aurum Fulminans* gives a crack, or loud noise.

I have elsewhere shewed that the Spirit of *Nitre* in *Alcaly* is made *Nitre* of *Tartar*. Gold is almost all Sulphur (after its own sort and manner) as I have also experimentally demonstrated in its place; for which reason it is not corroded by *Acids*. Gold therefore being dissolved in salt water of *Nitre*, *Allum*, and *Sal Armoniack*, or common Salt, if you pour in by little and little (not all at once) a *certain Alcaly*, the *Acid* Spirit of the *Nitre* (for the Spirit of *Allom* or *Vitriol* in the distillation of *Aqua fortis* doth not ascend) takes to it self a Body in the vacuous and empty *Alcaly*, and so becomes natural *Nitre*; but the sulphurous *Nitre* easily adheres (*via humida*) to the sulphurous *Gold, because of the similitude between them; and they are so throughly mix'd together, that by no art of Ablution they can be separated (*i. e.*) when the *Acid* of *Nitre* is imbibed by the *Alcaly*, it is coagulated into natural *Nitre*, which finds the Sulphur in the dissolved Gold, and with it, as being of the same nature, to use *Hippocrates*'s words, it receives coagulation, as I have shewed in *Calx*: But if you pour on more of the *Alcaly*, so that it exceed the degree of *Nitre*, then the *Nitre* also inclines and deflects to the

Aurum Fulminans.

* This is the cause that Gold dissolved in Spirit of Salt, and the same fore-cited *Alcaly precipitat*, is not *fulminans*, for it returns to Salt, which resists the flame.

nature of *Alcaly*, and it can no longer be called *Aurum Fulminans*, of which more anon. But to return from this digreſſion.

* *Anat. Croll. in Lapide medicam.*

So alſo *Fel Vitri* * contracts the ſame reliſh, becoming Salt from the Acidity of the Flint, for it doth not precipitate *Mercury* at all.

Liquor of *Talck* (not Oyl, as the ignorant vulgar think, for it conceives not flame) ſtirs not *Mercury* at all, as neither do Salts from all Diuretick Herbs, as Bean-ſtalks, Broom, S. *John*'s Wort, Rupture Wort, Nettles, *&c.* all theſe, I ſay, are Acid-ſalt; and do not precipitate *Mercury* from the ſaid Solution; but when they are Alcalized by a quick flame or Fuſion, then the *Mercury* falls down reddiſh.

Hence it appears, that that moſt Learned Man of the Ancients, who taught us to extinguiſh red hot Glaſs in the Aſhes of Bean-ſtalks, and not in its Salt, did rightly inſtitute the burning thereof, and not according to the Doctrine of our unskilful Reformer, leſt the Salt ſhould unadviſedly aſſume the nature of *Alcaly*, of which I have ſpoken before in the fifth Chapter.

The ſalts of the Aſhes of vulnerary Herbs, ſuch as Bettony, Agrimony, Winter-green, Elatine, Star-wort, Sanicle, *&c.* all yielding a tart Salt, are therefore unfit for vitrification, and do not precipitate *Mercury*, which is of the ſame taſte, as ſhall be ſhewed in its place: But all the aforeſaid Salts, by the fire of Fuſion, do change their nature, and become *Alcalyes*, are vitrified, and do precipitate *Mercury* of a ſparkling colour: Hence *Zoar* upon *Exodus* obſerves, that Glaſs is made of any Aſhes (*i.e.*) when they are reduced to *Alcaly*.

Conſtancy of Salt in the Fire.

Common Salt doth not precipitate *Mercury*, from the above-mentioned Solution, yea, although it be burnt a long time, and with a quick flame, it would never become *Alcaly*, neither doth it change its nature by digeſtion; wherefore it is the perfecteſt of all Salts, and by a ſingular priviledge is called by *Helmont*, *The excellenteſt of Salts*. So Salt of Vipers doth not precipitate *Mercury*, unleſs the *Acid* and the *Alcaly* be again ſeparated one from the other, of which hereafter.

Salt

Salt of Wormwood, being Acid-ſalt, doth not for that reaſon precipitate *Mercury*, neither doth it abſorb Spirit of *Vitriol*, as the Reformer teaches under the Title of *Coagulated Spirit of Vitriol*; but when it is Alcalized, it precipitates *Mercury* yellow, and then alſo it abſorbs the Acid Spirit of *Vitriol*, and vitrifies. *Pharm. reo. f. 788.*

Hence we learn, that in a fire ſtronger than the nature of the thing will bear, Salts will be fixed, and converted into a Neutral thing; wherefore many things are produced by the ſole Regiment of Fire, not as if they were entirely generated anew, and brought forth to light for increaſe (as the vulgar, being ignorant of this *Hippocratical* Learning, do ſuppoſe) but only by a ſimple alteration of the Subject, as my *Hippocrates* ſhews; and they alſo know, who have skill to make an Harmonious Conjunction between the External and Internal. *L. 1. de Diæt.*

So alſo, without the help of Fire, Salts are changed from their natural temper; as for example, mingle Liquor of Salt of Wormwood, not Alcalized, with Roſemary, and the Solution becomes milky, both of them being coagulated into a Neutral thing.

On this Foundation ſtands the Proceſs of the *Febrifug:* Medicine of *Lazarus Riverius*, hitherto known to few; but I ſhall crave leave a little more clearly to explain it, know then, that it is made of one only Subject repreſenting *Alcaly*, and two *Acids*, all of them not having yet undergone the Fire, but by Exaltation ſo often repeated, till you ſee it again changed from blackneſs into a moſt white, volatile, artificial Salt, not unpleaſant to the taſte, to which afterwards the fourth *Athleta* is added (*i.e.*) *Scammony*, as appears in the Proceſs. But who can enumerate all the Metamorphoſes which ariſe from the mixture of Salts; ſome of them aſſuming one form, ſome another, by their mutual mixtures, as *Hippocrates* teaches. *Riverius Febrifuge.* *L. 1. de Diæt.*

It is to be obſerved, that Salt of Soot having its Original from the ſtock of vegetables, doth precipitate *Mercury* from the aforeſaid Solution white, ſpongy, and light, as do the volatile *Alcalies* of all Animals, as ſhall be ſaid anon; but if they are converted into Salts, then the *Mercury* falls no more. *Alcaly of Soot is made Salt.*

Hence we may conclude, that almoſt all oily Herbs, and ſuch as are counted hot and pingueous, do yield *Sal Alcaly* by a light and ſimple Incineration; to which if the *Hippocratiſt* renders its proper *Pinguedo*, by an hidden Coction, they are converted into an admirable Salt, which is then called by our Chymiſts *(Elixir Parvum)* and is of great * vertue in Phyſick, of which in its place. The ſalts of other Herbs do degenerate and turn into imperfectly Salt, or into *Acids*, and by a quick flame, or the fire of Fuſion, are reduced into vitrifying *Alcaly*.

* See *Ripl. Bacon, &c.*

CHAP. VIII.

The Foundrs Art doth further ſhew, that Alcalyes *and* Acids *are abſorbed.*

ALl Minerals, of what kind ſoever, having in them hidden Metalline Bodies, are joyned with *Acids*, (*i.e.*) Sulphur of ſeveral ſorts, which do hinder the Metal from being purged from the impurity of the Mines. In this ſtreight, it is needful to have recourſe to *Alcalyes*, which do the work ſpeedily: Reducing therefore the Mineral to Powder, they mix it with *Alcaly*, and melt it in a Crucible; the Fuſion is accelerated by *Nitre*, which is kindled with the Sulphur, as part burns away, ſo part with the *Tartar* is turned into *Alcaly*; that *Alcaly* abſorbs all the *Acid*, with which otherwiſe all the Metal would fly away; but this way it eaſily goes to bottom, and that Artiſts call *Regulus* (*i. e.*) pure Metal, free from Sulphur, which again under a Probatory cuppell with Lead they further purifie, for which you may conſult the Say-maſters and Refiners, it being my intent to ſpeak only of the Foundation of Salts.

Silver flies away with *Acid* Minerals.

I have told you, that Metals are turned by Acid Minerals into Fume, which is manifeſt in Silver melted with Lead in an Earthen Pot made of Pot-aſhes; put the Sulphur piece-meal into it, whoſe acidity as it flies away, it alſo expels the Metal, which you may gather up again with a moiſt Linnen Cloth ſpread abroad in the Chimney.

Another

Another Experiment to prove that Metals are carried off by the Acid Mineral, is, that *Cement*, which is called *Regale*, which is made of common salt, and Powder of Bricks, with which they stratifie or spread over Gold Money bound in with Copper: In this Cement the Gold, without Fusion, dismisses the Copper, and together with the Acid Spirit of Salt, vanishes to smoak, which yet carries off with it something of the Gold; but when the Acid Spirit, being loaded with the Gold, assays to pass through the Earthen Covers, the Gold is precipitated, and sticks to the Covers, whiles the Spirit corrodes them, which are afterwards pounded together with Quick-silver and water: This recollects the Gold, and restores it to his Master, when it is separated from it through Leather.

Gold flies off with the *Acid* Mineral.

Regulus Antimony.

As Minerals bearing Metals are precipitated into *Regulus*, the same way is *Regulus* of *Antimony* precipitated (*i. e.*) with *Tartar* and *Nitre*, because the *Alcaly* of *Tartar* imbibes the Acid Sulphur from the *Antimony*, and segregates the pure *Regulus*.

Antimony is also melted with common Salt, but the Acidity of this latter doth corrode the *Antimony* in the vehemency of the fire, and it is raised into bubbles, and so less *Regulus* falls. These examples concerning precipitation the *dry way*, may suffice.

So any *Alcaly* being dissolved in water (which is called the *moist way*) as it always drinks up the Acid, it also cleanses *Salt-peter* from every Acid, which therefore the ablest Physicians do chuse for a great cooler in the *Quinzey*; for which reason it is called *Sal Prunella*. A certain dull Fryar hearing *Sal Prunella* to be commanded by Chymists, came by night to a skilful Apothecary, and demanded of him whether this *Sal Prunella* were extracted out of Sloes, or Garden Plums; yet these are the men who would be accounted by vulgar Ideots and silly women, the only *Regular Practitioners*: I say, they boil * *Nitre* in Alcalized Lye, till a drop stands on cold Iron like Suet; then they set it aside in a cool place without pouring it into any other Vessel, and in a night suffer it to concrete into most clear and pure

* *Nitre* burnt with *Sulphur*, doth more hurt than good in a *Quinzy*, for it becomes salt.

Flakes, which the next morning they wash off; for the *Alcaly* hath drunk up all the hurtful and impure *Acid* from it, *as it happens also in mans body*, as *Hippocrates* shews in his first Book of *Diet*.

CHAP. IX.

The Prerogative and Priviledge of Alcaly *of* Tartar.

I Have mentioned already, that amongst the fixeder sort of *Alcalyes*, Salt of *Tartar* is endued with a singular priviledge; for though it be an heavy Body, terrestrial, impure, and mixed with filth, yet being digested with any Metal whatsoever, in a due space of time, it turns it into running *Mercury*. Having experimented this, I affirm it for a truth to convince the incredulous; but if any refuse to believe it; I am not much solicitous.

Gold is almost all *Sulphur*, and gives the least *Mercury* of all.

A Friend of mine endeavouring to obtain *Tartar* from generous, mature, and clear Wine, did elicit and draw forth the Spirit, and suffered the Phlegme to exhale; the remainder being thick as a Syrup, he permitted to concrete in a cold place, into *Pellucid Tartar*, which he burnt; and as the custom is, with common water extracted the *Alcaly*, which he suffered to run down into a Liquor of its own accord. A sudden occasion offering it self, that he was to go to *Rome* with a certain great man; to the end that the precious Liquor might not be lost in the interim, he commanded his Servant to preserve it in a Vessel which he appointed and shewed him for that purpose; his Servant, by a mistake, poured it into a Neighbours Vessel, like the former, in which Silver was which had been dissolved in *Aqua fortis*, to which *Sal Armoniack* sublimated and dissolved in distilled Vinegar (begun for another work) had been added: My Friend returning after nine Months, and seeking for the Liquor of *Tartar*, he found the Cucurbite into which his Servant was injoyned to put it, quite empty: The Servant answering, that he had poured it into a Neighbours

bours Veſſel, looking there, he found not the Liquor, but dry Earth (nine Months exſiccated) which he touched with his Rod, and a great part of the running *Mercury* diſcovered it ſelf; at that time he could not believe that running *Mercury* could be made out of perfect Metals, being ſo perſwaded, according to the Axiom, *That it is eaſier to make, than to deſtroy perfect Metals*, which made him neglect the Experiment, imagining in himſelf, that the *Mercury* had fallen into the Veſſel by ſome chance. But at length he learned out of *Baſilius Valentinus*, that Salt of *Tartar* hath this priviledge above all other Salts.

Mercury out of Silver.

The ingenious *Helmont* hath confirmed this Experiment in theſe words; *I have found*, ſays he, *that the Crudity of* Saturn *is diſſolvable by the fat of fixed Salts, and that the parts of the* Compoſitum *are ſo divided, that it ſuffers Silver to run crude.*

Tract. poteſt Medic. §. 4.

There came then to my mind a ſtrong *Lixivium*, wherewith old women boil *Litarge* to black their hair (of which *Porta* alſo makes mention in his *Magia Naturalis*) into which I dropped Spirit of *Vitriol*, and preſently the *Alcaly* ſuffered the Metal to run into a white Powder, which I reduced into Lead; by which means, I knew for certain, that *Alcalyes* do invisibly contain and hide in their Bowels Calcined Metals.

This Experiment being made, *Helmont* goes on, ſaying, *That calcined things are moſt ſharp, but they are dulcorated with diſſolved* Sal Armoniack *and putrified* Tartar; *(i.e.)* they are turned into running *Mercury*, which is not any longer tart or biting, as Calcined things are, but inſipid to the taſte.

I return now to the Salt of *Tartar*, which in form of Liquor was poured into the *Cucurbite*, in which was Silver corroded by *Aqua fortis*, with *Sal Armoniack*: All theſe changed their nature into Neutral Salts, different from their former ſtate; ſo the Silver made no more any ſhew of Silver, of which * *Baſilius de Tartaro.*

* *Litr. de magno mundi. Mirac.*

Durch, &c. *By my Spirit they take revenge, and break (or diſſolve) al. Metalls.* For as all Sublunary Bodies (Experience being witneſs) do conſiſt of two things, *Acid* and *Alcaly*

Alcaly (as I shall mechanically shew in this Tract) the same may be said of Silver: from this Silver the *Alcaly* of *Tartar*, by due digestion and coction, hath absorbed so much of the *Acid* Sulphur, as was sufficient for the *Mercury* in the state of Silver (now it being segregated and divided from it) for its constancy; into the place of *Mercury*, succeeds the *Alcaly* (Philosophers call it *Adulterium*) which it imbraces from the Silver; and therefore loseth its form and beauty, and changeth its nature, so that it is melted even with the gentlest fire, as Lead or *Sal Armoniack* mix'd with the *Calx* of Flints, and it is called by *Crollius*, *Luna Cornea*, because it may be cut with a Knife like Horn. This *Luna Cornea*, though it be washed an hundred times with hot water, and * melted with a swift Flux from *Tartar* and *Nitre*, yet it is impossible to separate them one from the other, unless in *Balneo Saturni*, in which that of the Silver which remains, returns to pure, but the Salts, with the Lead, into dross and Litarge; which also again, by simple Fusion, is reduced into Lead; but the dross, which were Salts, are hurried into Element together, with the Sulphur of Silver, which they had absorbed.

Diana nuda.

Luna Cornea.

* As I have elsewhere said of *Fulmen Fulminans.*

CHAP. X.

That the Bodies of Alcalyes *are* Vacua, *proved by examples.*

A *Vacuum* in Nature demonstrated by Art.

WHerefore Salt of *Tartar* is a *Medium*, wherein not only Metals, but Minerals also do revive and obtain, as it were, a Resurrection, though by Art, and a strong fire, they seem quite destroyed. Pour Spirit of *Vitriol*, drop by drop, upon dissolved Salt of *Tartar*, till the hissing noise cease; reduce the Liquor into Chrystals, or dry it all up, and you shall find a Salt, having the nature of *Vitriol*, it provokes vomit, and being superbibed, purges by Stool, as white *Vitriol* is wont to do: It is mingled with *Nitre* and *Quick-silver*, 'tis sublimated into red, to which add common Salt, and it becomes a Corrosive Sublimate; it is distilled per se as Vitriol

Regeneration of *Vitriol.*

triol: The whitish Mucilage subsiding in the bottom, is the same *Tast*, which in dissolved crude *Vitriol*, by the affusion of Salt of *Tartar*, falls down black: It endures the fire, and resisteth fusion, as the *Colcothar*, or *Caput mortuum* of *Vitriol*, which yet without the affusion of Spirit of *Vitriol* was easily melted: That fixed Salt is *Vitriol Regenerated*, called by the Writers of the Rudiments of Chymistry, *Tartarus Vitriolatus*, and *Universal digestivum*. It is made much more excellent and perfect from crude *Vitriol* dissolved in water, and Liquor of *Tartar* poured upon it, until it cease to be troubled, which point of Saturation is not found without difficulty, for if it exceed but one drop, it turns the mixture either into *Vitriol* or *Alcaly*, of which my *Hippocrates*, *Nunquam simul in eodem consistunt*; coagulate the clear Liquor into shining Chrystals: This is more Noble than the former, because in distilling the *Vitriol*, the violence of the fire elevates the *Liquamen* of the Copper, and mixes it with the Spirit, so that it becomes troublesome to the Stomach. But in this simple way, the *Alcaly* consumes only that most simple Natural *Acid*, which corroded the embrionated Metal in its Flux. This is that simple *Acid*, agreeable to our Nature, in *Acid* Fountains, refreshing the Drinkers, and acceptable to the Stomach, though taken in great quantity; of this I determine to speak briefly; yet * *Paracelsus* relates, that in a Village called *Viltin* in *Helvetia*, there is a Fountain, the like whereto is not to be found in the whole World.

L. 1. de Diæt.

* De morbis Tartaris.

So also Spirit of *Nitre* re-assumes a Body in Salt of *Tartar*, and becomes cold natural *Nitre*, conceiving flame, and is a Remedy for the *Quinzey*, which otherwise being separated are Caustick, as I have shewed in *Aurum Fulminans*. If you add Spirit of Salt to the same Salt of *Tartar*, then, after Coagulation, it becomes common Salt, as it was before it was turned by a strong fire into Spirit; and therefore, since the *Acid* Spirit of Salt by solution returns to Salt, we may cease our wonderment, why amongst all *Acid* Spirits, no other dissolves Gold, but that of Salt? because that by Corrosion it re-assumes the Nature of Salt, even as the water common-

Regeneration of *Nitre*.

Regeneration of common Salt.

Of *Acid* Spirits, only Spirit of Salt dissolves Gold, and why?

ly called *Aqua Regia*, which without Salt touches not the Gold at all.

Tartarus Regeneratus ly some improperly called *Tinctura Philosophorum.*

The same Salt of *Tartar*, if it hath imbibed Vinegar distilled from Wine, is made common *Tartar* of Wine, having all the properties thereof, excepting only that *in humido* it doth more easily melt: Cleanse this Regenerated *Tartar*, by solution, from all its impurity, and afterwards distil it with a strong fire through a Glass retort placed in Sand, and you shall obtain an Oyl, and bitter Liquor, as that which is elicited from crude *Tartar*, yet the Oyl somewhat resembles the goodness of the Wine, of which the Vinegar was made. Tis almost incredible to be spoken, that distilled Vinegar should contain in it an occult fatness, and yet it is very true; but Salt of *Tartar* hath not this priviledo, for it is fixed and tryed in the fire. At *Rome*, from one Ounce of this Regenerated *Tartar*, I drew forth six Drachmes of Oyl, of an Orange colour, and grateful smell; but at *Venice*, a pound scarce afforded me one Drachme, and that black, coloured, and stinking: I say, it is even incredible, that in Vinegar, not only the qualities of the Wine, but of the Country where it grows, should manifest themselves. From what hath been said, it appears, that *Acids* do attract *Alcalyes* at their pleasure, and rule over them as they list.

Distilled Vinegar becomes fat Oyl, conceiving flame.

What more pleasant than to know those things, and to see them with our eyes, and handle them with our hands under a grateful ingenie, which common sense doth not apprehend, and by nature are put remote from us.

In like manner it reduces Oyls, either distilled or expressed, into their first Elements; for they being mixed in a just proportion *(i.e.)* to satiety with Salt of *Tartar*, and digested afterwards out of a Glass retort placed in Sand, one Moity returns Oyl, the other Moity is water. Again mix this Oyl with new Salt of *Tartar*, as above, repeat the distillation, and you will see all the Oyl converted into water, a little Earth being left with the *Tartar*, which you shall know increased in weight; so that Oyl, which otherwise is wholly inflamable, here you may find turned into odoriferous water; and again distilling this water out of a Glass, you will extract *Aqua Ardens*, which again, with Salt of *Tartar*, it turns to *Alcaly*, and afterwards into Elementary water, like that which remained in the Glass.

Oyl made water.

Oyl made *Aqua Ardens.*

Aqua Ardens made *Alcaly*, and Elementary water.

There

There were two pound of the remaining Salt of *Tartar* in the Retort, which I laid upon an Iron Board or Slate, that it might run into a pellucid Liquor: I distilled all the Humidity out of the Retort placed in Sand, and breaking the Vessel, I again dissolved in the Air the Salt, which was in the bottom, upon the Iron Slate (which is not prejudiced at all) which is done in about forty hours space, and there remained nothing on the Slate besides a little slimy *Fex*. I again distilled the Liquor, encreasing the fire, as before, till nothing came forth, either dropping or smoaking, and I again dissolved the same Salt, having broken the Retort, on the Iron Slate; I renewed these Operations twelve times, and all the Salt of *Tartar* was turned into the Element of water: I gathered up the *Faces* which were left each time on the Slate, and I extracted all the saltness from the distilled water, with which I made the same Process, as before; so that all the Salt of *Tartar*, as the Vinegar, Oyl, and *Aqua Ardens*, were turned into insipid water, and *Terra Mortua*, of no savour or smell, which Earth and Water, a little before, seemed Caustical. 'Tis a wonder to consider, what becomes of this Fiery Vital power and vertue, both of the Oyl, Vinegar, and *Aqua Ardens*, as also of the Salt of *Tartar*; yet this vertue or form persisted constant in the fire, until the reduction into the Elements; I now call it the *Reflux*, for our clearer understanding of it, of which more particularly in its place: You may call it as you please, either *Fire*, *Form*, *Archeus*, 'tis all one to me; *All are like, though they appear unlike*, as *Hippocrates* affirms. If the Reformer had had any knowledge of fixed *Alcalyes*, he had never prescribed to Podagrical persons *Oyl of Venice Soap*, for whatsoever of Oyl distils from Soap, is like that from Brick, and contains nothing of *Alcaly*: So also, they who dissolve the Body of Soap, and say, that it is good for gouty diseases, are in a great mistake; the taste may be an Omen of their disappointment which is found manifestly salt, for it doth not precipitate *Mercury* from the above-mentioned solution.

Salt of *Tartar* turned into simple Elements.

L. 1. de Diet. In Append. ad animad. f. 84.

Wherefore the *Alcaly* of *Tartar* seems to bear a re-

presentation of the Philosophers Chaos, wherein they say their *Mercury* hath a Resurrection; of which *Paracelsus*. *The Regeneration*, says he, and *Renovation of Metals is thus made, as man returns to the Earth whence he was first taken, and so shall be again Regenerated at the last day: So also Metals may again return to* Mercury *(of which they were first derived) and be dissolved with it, and re-become* Mercury; *and again by fire (which also shall judge the World) be re-produced and clarified. This way* (as he goes on) *are stones Regenerated, and also special tinctures of Silver and Gold.* Thus far *Paracelsus*. In the mean while, I would not advise any man to perswade himself, that Salt of *Tartar*, after whatsoever manner prepared, is the Catholick Chaos of the Philosophers, though Metals in it may return into running *Mercury*. 'Tis enough in short to have advertised this.

L. 1. de natura rerum.

Of which see *Roger Bacon, Ripley, Isaac Holland*, yet read them with caution.

But I am enjoyned silence by *Harpocrates*, concerning fixed Salt of *Tartar*, lest I should be injurious to the curious disquisitions of Learned men, who have spent much labour and pains to attain the full knowledge thereof, it being a Medium giving vivification to many things. *Basilius, Paracelsus*, and others, have taken great notice of it, who have stript it of its cloathing, and have chosen it for a Dissolver, seeing it doth illuminate and vivifie its objects, almost after the same manner, as the fixed Alcaly of Herbs extracts from Calcined Flint another, and like Alcaly, which it is not possible to elicite by any other sapour, than by its like; and it makes it much more powerful, and turns it into a nature truly fiery; so that we ought to make our progress from things known to things unknown, as *Aristotle* rightly adviseth.

Actaeons example deters me.

The Academical Spirit understands not this Mystery.

This is that which *John Baptista van Helmont* makes a noyse about, *Learn*, says he, *a dissolvent, which is always the same, and you have attained the inward Essences of things, which he proves by an example*, demanding, why Lapis Ossifragus *fix'd, not Calcineable, should cure a broken bone taken by the mouth, and yet not the Stone, or the Gout?* I answer this Worthy Man thus, that the ridiculous *Alcahest* of the Reformer, and the *secret solvent*, are nothing

De Febr. c. 17. v. 25

Tract. de verbis herbis, & lapidibus.

thing but Vinegar distilled from *Aerugo*. And although it corrodes the *Ostreocolla* Stone, yet the Stone by the corrosion acquires the properties of Vinegar, whence it comes to pass, that it reaches not to the Urinary places, but is presently precipitated in the Stomach, as hereafter shall be demonstrated to the eye. *Append. ad Animadv. f. 72.*

Wherefore hitherto, Salt of *Tartar* hath plaid its part in its mean dress, but when it is dispoiled of its Garments by the hand of a Philosopher, so as to appear in its naked, lucid, and resplendent form, then it reduces the things which are committed to it, into the same, or a matter like it self (I remember having once prescribed Crabs Eyes, so dissolved, to a Woman in a long *Quotidian* Ague, which could not endure Phylical Potions, a Timid Canonical Physician then present, interrupted me, saying, it was a Mineral, and full of danger) and because it is without form, as all Alcalyes are, it assumes the form of that with which it is united (for *Sal Tartari* is a middle thing between a Mineral and a Vegetable, and therefore easily comprehends the nature of them both) and so goes forward. Thus much is sufficient to have pointed at the differences of fixed Alcalyes. He that knows little, fears much.

CHAP. XI.

Concerning the Volatile Alcaly *of Animals.*

AS fixed Alcalyes do absorb all Acids, and according to the nature of the Acid are changed into Salt, as I shewed above, so also the Volatile Alcalyes of all Animals, from whatsoever parts of them extracted, are likewise turned into Salt, imitating the property of the Acid, and as Urine contains a Volatile Alcaly by the ferment of putrefaction, so do Sweat, Blood, Flesh, and Bones of all living Creatures, by a diverse ferment, every one according to the vertue, inhabit in the place. And as I have shewed the intrinsick difference of fixed Alcalyes with *Mercury* sublimate resolved, and the singular Prerogative of Salt of *Tartar*, so touching these Volatile Alcalyes, What *Ferment* is, I will shew anon.

calyes, I will go on to demonstrate in my progress, their peculiar priviledges and endowments. The Alcaly of all Animals, of Urine, of Blood, of Swear, (yea of the Stones of all Animals) of Serpents, of Frogs, *&c.* do præcipitate a white Mercury out of the aforesaid solution, so that by this Mechanical Method, you can discern no difference; and by consequence this Alcaly is not of a Salt taste, as the Reformer presuming on his own opinion, hath taught; for Salt things, as I have shewn, do not præcipitate Mercury out of the aforesaid solution, but it receives a form, according to the property of the Acid, as will more clearly appear in the progress.

The Alcaly of all Animals are alike, and empty Bodies.

The Ancients took notice of this fundamental and specifick difference (which they call *Occult.*) I say, they observed, that Volatile Alcaly drinks up as much of *Sal Armoniack* as is sufficient for its constancy and saturity, for artificial *Sal Armoniack*, so that the Alcaly of Urine and the Acid part of the aforesaid Salt, do so strictly embrace one another, that *per se*, they cannot be separated, for the Salt of Urine, in the torture of the Fire, seeking to escape, carries away with it the Acid part, which it had absorbed, and they are both sublimated together into artificial *Sal Armoniack*.

The occult quality is the Ferment of the place, of which hereafter.

Artificial *Sal Armoniack*

Now, that Common Salt, either Ours, or the *Armoniack* of the Ancients, hath an Acid part, communicable out of the Fire; is proved by this Experiment; *viz.* Drop Liquor of Tartar upon Salt, when it is resolved, and in a few moments, you shall see the earthy part to be separated, and the Alcaly of Tartar to embrace the Acid, of which more plainly hereafter: So, without the Art of Distillation, the Ancients essayed to associate the Alcaly of Vipers with Natural *Sal Armoniack*.

Common Salt is Acid Salt.

Wherefore the Ancients, after they had observed out of *Hippocrates* the occult difference of Volatile Alcalies (of Animals) and the Acidity of Common and Cireniack Salt, under the name of *Faculties*, they began to stratifie Vipers with Natural Sal Cireniack or Armoniack, as *Pliny* saith, in the place before cited (as they saw, concerning Urine and Salt) to the end that the Alcaly of Vipers might imbibe as much of the Acid Salt, as might suffice

L. 1. de Diæt.

L. 1. de Diæt.

suffice, for stopping its voluntary flight. This Composition, not altogether without cause, they then called *Sal Theriacale, Salt of Treacle*; because they had learned, the Flesh of Vipers to be good against many poisons (yea by such an ingenious Viperine Decoction, I have more than once cured the French Pox in Curious Persons) and consequently by reason of its seminal and mumial Ferment, that the Alcaly of Vipers, must contain the same Faculty.

This Contemplation of the Ancients is unworthily charged by the Reformer with *childishness and absurdity*; He himself, being much more absurd, as not understanding the memorable Inventions of our Ancestors. And whereas he casts in their Teeth, *That they had not the Art of Purifying*. That indeed is true; but they are not therefore to be calumniated, nor detracted from, in point of Honour, much less to be scoffed at, for so my Master advises. Some Ages hence, perhaps this *Reformer* will be laughed at, for writing such absurd things in his Time; for occasion will not be wanting many thousand years hence, to find out, and learn newer and better things; *Because Nature discovers not her secrets all at once, neither are they exposed promiscuously to the view of all, but are, as it were shut up in her inner Chappel, of which this Age brings forth, one thing; the Age following, another.* But let Us hear my *Hippocrates* speaking much more modestly of this thing; *'Tis an unworthy thing, to blame any one of them for not finding; all, are rather to be commended, for seeking and enquiring after.*

F. 481.

Senec l. 7. *Nat. Quest.* c. 31.

L. 1. *de Diæt.*

These things being præviously understood, let us now consider, What excellence and prerogative, the *Viperine Salt* of this Reformer hath, above the Inventions of the Ancients, which yet, They prepared by an easie Operation; but He, with great charge, labour, pompous ostentation and triumph.

The Alcaly of Vipers (under that Title, *Pharm. f.* 486.) distilled out of a Retort, drinks up the Acid Spirit of Common Salt, which I have shewed, with Alcaly added, to be separable, without the Art of Distillation, from that Conjunction (*i. e.*) of the Acid Salt, and the Alcaly

The *Sal Viperarium* of the Reformer's Common Salt.

Alcaly of Vipers, is made Common Salt. If I re-urge this Common Salt with Fire of Sand, it will be elevated into Artificial *Sal Armoniack*, as having all its properties; which is proved by this Experiment.

Pure Alcaly of Vipers.

Mingle the Powder of Salt of Tartar (*i. e.*) the Fixed Alcaly of Tartar, with an equal part of the Viperine Salt of our Reformer, distil this Mixture in a Retort, placed in Sand, and you shall presently see the Alcaly of Vipers to ascend by the neck of the Retort; because the Fixed Alcaly of Tartar apprehends and catches the Acid Salt; then the Alcaly of Vipers, willingly leaves her Acid Companion, whilest it is forced to fly away by Heat. Do the same with Common *Sal Armoniack*, and you shall find no difference; and therefore what the Ancients did with the Body of Salt, That the Reformer performs (with greater labour and cost) with the Spirit of Salt; and if the Ancients *Sal Viperinum* be of no use, as he says, surely His, hath the same property.

Pure Alcaly of Urine.

But when, That Alcaly is expelled with Salt of Tartar from the Common *Sal Armoniack*, then you will have the pure and dry Spirit or Alcaly of Urine, which the Reformer most foolishly calls *Salt Spirit of Sal Armoniack*; as he also with the same sottishness, calls that *Vinegar*, which he distilled from Meal mixed with *Sal Armoniack*, out of a Retort. *The Acid Spirit of Sal Armoniack*, adding withal this gross mistake, *These two Spirits out of Sal Armoniack, the Acid and the Salt* (though both of them contain not a drop of *Sal Armoniack*) *though produced out of one Subject, yet are contrary one to another, and being joyned together, destroy one another; wherefore let the Apothecaries carefully distinguish between the Salts and Acids.* But the Reformer informs them very grossly concerning Tastes, yea he presumes to teach them, that, which he is ignorant of himself; witness, amongst many other things, *Aqua Mindereri*, for the Hearing.

*Append. ad Animad. f. 73, 74.

*The Water of *Mindererus* for the Hearing.

For this Water hath Urine and Vinegar for its Foundation, which mixture the Reformer doth not only disallow, as believing, without further inquiry, *That, the Salt and Acid, are destroyed by one another*; being ignorant,

rant, that the deſtruction of one, is the generation of another. Thus he huggs his own opinions as the Ape doth her Apelings, but alſo he aſperſes a worthy Man with reproach and calumnies, who hath candidly communicated his experiences for the Publick good; notwithſtanding which, the Reformer (after his manner) thus ſcribbles in his *Appendix*: *Beſides many other Abſurdities, I ſee Vinegar and Urine to be poured on, which are plainly contrary one to another; for the Urine of Animals diſtilled, yields a ſharp Saline ſpirit, which is a deſtroyer of all Acetous ſpirits.* Thus he. *Ad Animadver.* Fol. 336.

Hitherto I have demonſtrated, that the Volatile Salt of Urine is by no means Salt, but Alcalizate, and therefore being mixed with Acid, from them both, there ariſes a Salt tart Sapor; wherefore from the mixture of the Volatile Alcaly of Urine, and Diſtilled Vinegar (which two do never concrete,) there is made a diſtillable, ſalt, and moſt piercing Liquor, I queſtion whether any thing be more ſubtle in nature (of a ſimple mixture) for an old Obſtruction, For which cauſe the moſt Ingenious *Mindererus* rightly, and with good Judgment, commends and preſcribes it for Thickneſs and Difficulty of Hearing; becauſe it is ſalt as Sweat is, as ſhall be proved, and in regard of its Symbolicalneſs and congenious nature thereunto, this Diſtilled Salt and Volatile Water, pervades the membrane of the *Tympanum*; yea it is willingly admitted into it. I ſaid this Spirit was Salt, which is proved by experience, for it doth not precipitate *Mercury*, from the often named Solution, as other ſalt things do not, which according to *Galen's* opinion do cut, attenuate, and diſcuſs the excrements, they dry, they ſupport and ſtrengthen Nature, and that in a rude lump of Salt, why may not then this moſt ſubtle Spirit be alſo Salt? Wherefore let the Skilful judg, whether the moſt Learned *Mindererus* be not unworthily blamed by Impoſtors. The Reformer underſtood *Hippocrates* but ill, who ſays, *That a Phyſician uſing reaſon for his guide, will never enviouſly calumniate another, for thereby he betrays the weakneſs of his own mind.* Now let us conſider *Salt of Tartar*, which drinking up the Acid, had ſeparated it from the Alcaly of Vipers, and remained

Without hurt or pain it pervades the *Cornea Tunica*, and diſſolves the White-ſpots in the *Pupil*, left there by the *Small-Pox*. The ignorant carp at what they do not underſtand.

L. 6. Prat.

in the Retort, they call that (but improperly) *Caput mortuum*, especially that from common *Sal Armoniack*, from whence the Spirit or Urine hath been extracted. That *Caput Mortuum* is a compound of Acid and Alcaly, and will be doubtless of a salt relish, like the Viperine Salt of this Reformer, and common *Sal Armoniack*, as hath been said and shewed; and for confirmation thereof I will repeat another Experiment.

Dissolve the said *Caput Mortuum* in water; cause the fœces to go to the bottom, and coagulate the clear liquor with a gentle heat to a Siccity, and with *Bole Armoniack* in a four-fold proportion, mix it into a very fine powder; urge this with a naked Fire, from a Glass Retort luted, into a great Receiver, and the Acidness of the Salt, which found a body in the Alcaly of Tartar, by the power and heat of the fire is put to flight, but in the greatness of the heat, it flies not alone, because being absorbed by the fixed Alcaly, it carries off with it the fixed Salt of Tartar, so that from the Acid and Alcaly being mixed, and urged with a violent fire, there is extracted a Spirit Semi-Acid-Salt, which, as it is an artificial product from a various mixture, doth not precipitate *Mercury* from the aforesaid solution; yet it is not of it self unfit for Medicine, as neither for destroying certain Minerals; but one Operation being finished, part of the Tartar returns into the element of Water, and the Acidity of the *Sal Armoniack*, from the other part of the Tartar, cloaths it self with a new body, which is again sublimated and separated.

The Spirit of *Sal Armoniack* re-assumes a body in *Tartar*.

It may be demanded, why in this place a Spirit is elicited from the fixed Alcaly of Tartar and the Volatile Acid, whereas above from the Alcaly of Flints, and the Acid spirit of Salt, it succeeds not? To which I answer, that the Acrimony of the Salt of Tartar, in a fire, not very vehement, returns quite to nothing, as I have shewed elsewhere; and for this cause, with its associate, it is easily elevated into Spirit, but the Alcaly of Flints, is more fixed, which before it flies, is rather, with its adjunct, turned into Glass.

CHAP.

CHAP. XII.

How Volatile Alcaly is generated in an Animal, and the parts of it.

I Have ſaid in the Examination of *Mindererus* his water, that * Sweat (by the Natural *Proto-Chymiſt*) is made Salt, as is alſo every compound of *Acid* and *Alcaly*, Urine not excepted; which this Operation ſhews.

* I call *Sweat*, either that inſenſibly tranſpiring, or that which makes wet; 'tis all one here.

Take that Lye, wherein foul Linnen Shirts have been ſteeped and waſhed, not boiled, put this Lye into a Glaſs of a long, narrow, and equal neck, ſet to a Limbeck at leaſt careleſly, and place it in a digeſting Bath or Sand, and in a few days you ſhall ſee the *Alcaly* of Sweat to aſcend, yet not ſtinking, as That which is ſublimated from Urine. This *Alcaly* could not be ſeperated from Sweat, unleſs its Salt reliſh were divided, which conſiſts of *Acid* and *Alcaly*, both Volatiles, as I have ſhewed in *Mindererus* his Water, and elſewhere; ſo that the Lye is a Fixed *Alcaly*, abſorbing the *Acid* part of the Sweat in the Heat of Digeſtion, and the fugitive *Alcaly* being divided from it, goes to top and a cold place.

The pure Alcaly of Sweat.

I once obſerved, as I was travelling poſt, this Salt, Volatile, Fat, and (therefore) penetrating and reſolving Sweat; how, although my Leggs were armed with Boots made of the choiceſt Leather, and well waxed, ſo as to admit neither Rain not Water; yet the Sweat of the Horſes, exhaling like a Vapour, had penetrated them, as it alſo happened to my Companions of good note: To avoid this inconvenience, I invented an Oyntment, like Verniſh, which in other caſes could reſiſt *Aqua-fortis*, and then in a ſecond Journey, for the firſt days, I found leſs inconvenience; but the days following, the Sweat had not only penetrated the Verniſh, but had plainly diſſolved it, as far as the Vapour of it reached.

Sweat ſalt and pingueous.

Hence I learned, That Sweat was therefore made

Salt by Nature, that it might resolve the filth in living Bodies, which here and there was coagulated in them.

But how the Sweat of all Animals, and whatsoever doth insensily exhale from them, yea of which the Animal consists, doth acquire Saltness. I shall explain a little more clearly, only for the sake of this *Viperine Salt*, whose *Acidity*, as it is occult, so the Saltness of it is more subtil and grateful. I profess my self to be the Inventor thereof, though *Momus* fret never so much; which the following Epistle shews: And though for Lucre of a little Gain in this Age and Theatre of the World, some unskilful men, and ignorant of Natures instruments, and of this Hippocratical Doctrine, have appeared, who obtrude, I know not what, on the unwary and unexpert, to the Prejudice of my Name, yet I now give the *Reader* to understand, that, which I have not discovered to any man living hitherto, save by this publique Writing.

The Invention of the Salt of Vipers.

Marcus Aurelius Severinus *wisheth prosperity and good success to* Otho Tachenius, *a great Studier of Nature and the Hermetical Art.*

The Epistle.

THe confidence which I always had in your friendship and good will, I now really experiment: For my desire to have some of your Viperine Salt, being scarce signified to you, you presently satisfied me therein; for which I return you many thanks. I wish some chance would happen, that you might pass over the Fordye Adriatique *to the flourishing* Parthenope, *it would be neither unuseful nor unprofitable to you. Besides, that choice Matron, whom you visited in her blindness at* Naples, *from that very day hath impatiently longed for you; wishing that the hinderances of your intended Voyage were removed; but because you have sent me a Viperine gift, I will requite you with another of the same kind, I mean a Volume of the Nature, Poyson, and Medicinalness of the Viper, printed for me at* Padua *by the*

the Famous Printer Paul Frombottus, *who upon the sight of this Letter, will deliver one to you in my Name; and he will give it to you the more freely, if you, shewing a willingness to communicate the useful observations, which you have long made, of this Viperine Salt, do betake your self to the Famous* John Rhodius, *my special Friend, the Corrector of the Press; who, if need be, can add them, to the end of the Work. I wish also, you would add some preparation and description of this Viperine Salt of your own. I have herewith inserted the preparation of Volatile Salt, out of* Johannes Vepserus. *Pray tell me how far you approve it, and continue to love me, as I do you: For I desire nothing more at* Naples, *than to enjoy the hopes of such a felicity as your Conversation and Company would afford. Here you would find a Liberal Harvest; Farewell.*

Many Enemies for Truths sake are a great honour amongst understanding Men. An Old Proverb.

From *Naples* the Ides of *May*, Anno Dom. 1650.

The Illustrious Matron, the Wife of Capicius Regens, *to whom you gave your Viperine Remedy, Salutes you.*

But to what end should I produce the Testimonies of Learned Men, this present Writing sufficiently declares, that this Salt, with all its requisites, was not so much as dream'd of by this Reformer, before I acquainted him with It, as I could shew by his own Letters to me, but that I am willing to consult his Credit: yet unless he produce other Foundations of Art and Nature, than he hath hitherto done, he will never come to the knowledg of this Salt: No more will men of a far higher Order and Rank than himself, however they boastingly and ambitiously word it out, and pretend to be able to attain it.

As Urine and Sweat, so also Blood, whilest it is yet hot and reaking may be commixed with *Lye*, and *Alcaly* be sublimated from it; but when the same Blood, without the *Lye*, is distilled out of a Retort, with the Fire of Sand, then in the *Caput Mortuum* it leaves much Salt, somewhat fixed:

The Alcaly of Blood Volatile and pure, precipitates a white *Mercury*.

More Fixed Salt of Blood, a noble Medicine, doth not precipitate *Mercury*.

fixed: The *Alcaly* precipitates *Mercury* from the often-named Solution into a white Powder, but the Salt, doth not: Hence 'tis manifest, that as the Lixivious and Fixed *Alcaly* drinks up the *Acid* from the Blood, so the Volatile *Alcaly* of the Blood catches also it's Proper *Acidity*, which is Volatile too, and in the Regiment of Fire, they are both fixed into a Salt, as will more clearly appear in the progress.

But least a New Truth should procure me New Envy, I think it worth my Labour, before I go on, to demonstrate, that *Hippocrates* was not ignorant of the Foundations of this Salt: For he in his Golden Books of Diet hath these words, *All living creatures as well as man, are constituted of two things, different in Vertue, but agreeing in Use, Fire and Water, both of these together are sufficient, both for all other things, and for themselves, but each of them apart, is neither sufficient for it self, nor any other thing*, &c. Thus he,

Lib. 1. Princip.

My Master and Philosopher, hath brought these two Faculties on the Stage, *Fire* and *Water*, in whose Bowels all * things are contained, which are necessary to perfect generation and transmutation.

* When I had recourse to natural principles then I knew Art to be true, says *Avicen.* I will shew those things which no man yet hath assayed to explain, *Hippoc.* ibid.

A while after he adds, that this is no culinary fire, for he says, men thresh, wash, and grind Corn, *and being baked in a hot Oven, they use it; with a strong fire it is not made up in its Body, but with a soft and gentle one*; what this *soft fire* in all things is, *will appear in the progress.*

CHAP. XIII.

The occult Acid is made Manifest.

The Fire (says *Hippocrates*) is not sufficient for it self; Hence the appetite of Alimental things,

IN a sound Stomach there is lodged a Volatile and never failing *Acid*; by the help of which, Aliments, which are all full of Volatile *Alcaly*, none excepted (as I shall shew hereafter) are transmuted and turned into Chyle or Juice, first Sourish, and afterwards by little and little

little into Salt (*i. e.*) mature: whether the Stomach hath this *Acid* of it ſelf, or elſewhere, it is not my preſent Enquiry, though a certain Writer intimates the former: 'tis ſufficient for me plainly to demonſtrate that there is ſuch an *Acidity*, firſt by Authority, then by experience. for they are Alcalys, as will appear in the Progreſs.

Hippocrates ſays, *In long looſneſs of the Inteſtines, if 'Acid belching ſupervene, which was not before, 'tis good.* The meaning is, that *Acidity* returning to the Stomach, it changes the food into Chyle, or Vital Juice, then neceſſarily Health returns. *L. 6. Apho. 1.*

Hence all ſeaſonings and ſauces for Meat, to ſharpen our appetite, are *Acid*; as Juice of Lemon, Pomgranate, Orange, Verjuice, Tartar, Unripe Grapes, and the like, all which notwithſtanding differ much among themſelves; of which, to avoid Prolixity, I will not now diſpute. See *Chap.* 10.

To recover this *Acidity*, when it is loſt in Diſeaſes, the Ancients appointed *Acid* Sirrups, of Vinegar and Sugar; of Vinegar mixed with Water, and the like, that by their means, the Weak Stomach might be refreſhed, and the Aliment, though taken in a ſmall quantity, might not immediately putrify; which yet is taken notice of by few, eſpecially of thoſe who perſuade themſelves, that *Putrefaction* and *Chylification* are the ſame things. Acid Juices differ from one another.

There was a certain man of the new Sect, and in his own accompt, no mean Perſon, who forbad Juice of Lemmon upon pain of death, to one ſick of a Feaver, who exceedingly deſired ſharp things, as if it were too crude; but he preſcribed ſimple Syrrup of Vinegar. I could not but admire that he ſhould allow Vinegar boiled with Sugar, for an alterative, but not Juice of Lemmons, in his Meat: He Anſwered with a loud Voice, that Julip of Vinegar was made of Water and Sugar. Our *Hippocrates* ſpeaks of ſuch a Phyſician, *If he doth not know the conſtitution from the beginning, and that which predominates in the Body, he can never preſcribe that which is good for a ſick man.* Now this *Acidity*, being oppreſſed by a long Diſeaſe, returns to the Stomach, either of its own accord, or by the Skill of an ingenious Phyſician. *L. 1. de Diæt.*

But

But that we may have some knowledge of this *Acidity* by Experience, Let an healthy Man drink a draught of Milk fasting, and let him presently vomit it up again, and he shall perceive the *Acidity* with his Tongue, and shall see the Milk vomited up, half curdled, as if Vinegar had been poured on it; (almost the like *Acidity*, is commonly found in Nature, by an helping hand, which in a Glass turns all the Aliment in four or five hours space, by the help of a gentle heat, from an *Acid Salt* into a *Lacteous Chyle*: a pleasant spectacle to behold, which I can ocularly demonstrate to any who desire to see it; but in this place for some reasons I forbear.) By the help of this obscure, though grateful *Acidity*, the Viperine *Alcaly* is compacted and gathered together for its proper uses.

He which is ignorant of the principles of Nature, hath no true root whereon to ground his Curative intention. *Geber.*

But no Sapor doth curdle and coagulate Milk, but that which is *Acid*: Now it is performed three manner of ways,

1. In the Healthy Stomach of all living Animals, Milk is not simply coagulated by the *Acid*, but in the very coagulation, it is necessarily impressed with the the Vital Vertue of the very Animals, which though it consists in the *Acid*, yet it differs from every other *Acid*, and then it is chylified and received for nourishment: So in a Dog, it assumes the Nature of the Dog, *&c.* the handling of which Hippocratical Doctrine, being not proper for this place, I do only point at it.

An Admirable thing. *Acidity* is the Vital Organ, and the bond of the Rector with the body, it may suffice to hint this once for all.

2. In the Stomach of Sick Animals, the Milk is indeed sowred, but not impressed with a Vital Character; wherefore the *Acidity* becomes putrefactive, which nourisheth not, but increaseth the Disease.

Hence my *Hippocrates* in some Feavors (not in all, as some would have it) forbids the use of Milk. *C. 5. Aph. 65.*

3. Milk is coagulated by manifest *Acids*, and by all of them, either *of the Mineral sort* and Class, as are *Acid* Fountains, Vitriol in substance, Spirit of Vitriol, of Sulphur, of Salt, of Nitre; or it is coagulated *in one only part of the Animal (i. e.) the Stomach*, and in no other; which is a sign that the perceptible *Acidity* is not admitted into the other parts: but

Divers Coagulations of Milk.

but if it creep into them by chance, it becomes the cause of Diseases and Death; wherefore *Acidity* lodges at least in all Healthy Stomachs, which, because it generally coagulates Milk, it is called by *Dioscorides*, *Coagulum*, and commonly in *Italy Conaglio*: yea the Stomach of all Birds, have the above-said *Acidity* so strong and in so great quantity, that unless they frequently eat Sand or pieces of Bricks, whereby to restrain the super-abounding *Acidity*, the said *Acid* would slide down from the Stomach and trouble the other Digestions, whence they would fall into an Atrophy and never grow fat: or else it is coagulated *by the Juices of Vegetables*; as of Lemmons, Oranges, Barberies, Vinegar, and what ever else tastes Acid and Sharp: Milk also sowres of its own accord (as do other Juices, as well of *Vegetables* as *Animals*, when they incline to putrefaction, yea nothing can putrify or be generated anew, unless this *Acidity* do proceed) and then it is also coagulated, and the Whey separated, which carries off with it the occult Volatile Alcaly, by means of which it doth refrigerate, as shall be shewed in its place.

What *Coagulum* is.

Acid and Alcaly in Milk.

Both these faculties are latent in good and sound Milk, and therefore they cause an occult Saltness therein; which is the reason, that Salt of what kind soever, either Natural or Artificial, never hurts Milk; yea sublimate *Mercury* it self, being a compound of the above-named Acid Minerals (*i. e.*) Vitriol, Nitre, and Salt (whose Acidity being suckt up by the Quick-silver, as by Alcaly, is changed into a very excellent Salt) doth Milk no hurt at all. Hence it appears, that Salt things do indeed dissolve mucilaginous compounds, but destroy not harder and more compact Bodies, as will be more plainly manifested in the *Sequel*.

Salt things do not curdle Milk.

CHAP.

CHAP. XIV.

The Precedent Doctrine illustrated by the Resolution and Composition of the Stone.

The Analysis of the Stone.

I said in the foregoing Chapter, that the perceptable, or manifest Acidity, out of the Stomach, was the cause of Diseases; which assertion, the Composition of the Stone doth confirm, which for greater illustration, I will now Mechanically resolve, and again compound. Take a Stone, cut out from the Bladder, or coming voluntarily from the Reins, (a drachme or two is sufficient) put it into a Glass Retort new and clean (let not the Stone be beat to Powder, but of that bigness, that it may not stick to the Neck of the Retort) put the Retort into Sand, set too a new and clean Receiver, urge it with a moderate Fire; First of all an Alcaly, like Urine, yet of no smell, will drop into the Receiver, and a little after, you shall see the more fixed part of the same Alcaly to be sublimated in the Neck of the Retort: mix both those Spirits, the Liquid and the Solid, and keep them diligently in a Glass Vessel, stopped with Wax, for if it be open, they vanish to Air, of which *Hippocrates*, *taken part it is not sufficient, either for it self, or any other.*

L. 1. de Diæt.

In the Retort when it is cooled, you shall find the pieces of Stone in the same form as they were put in, yet so light and friable, that if you touch them but lightly with your finger, they fall to powder, (as dead carkasses in *Roma Subterranea*) upon which entire pieces, if you again pour the Alcaly reserved from the stone, or else other Alcaly of Urine, presently it hardens, as it was before; which is a signe, that the Alcaly, in the aforesaid cadaver, finds an occult Acid, which may absorbe it; for unless it finds the Acid, it abides not alone in the open Aire, but according to its nature, would vanish away, *Because being severed,*

they

they are ſufficient neither for themſelves, nor any other; as *Hippocrates* teacheth.

Hence we learn, That the Stone (for Example) is not congealed, neither in the Bladder nor in the Reins, unleſs by the Alcaly of Urine, or the Alcaly of the place, and the Acid unduly, unproperly, and by miſtake, falling down from the Stomach, and there being degenerated, the Acid and the Alcaly, being joyned there, muſt needs concrete into a Maſſe, as I ſhall every where plainly ſhew) and they lay hold alſo on that which is not much different from their Nature; which, together with theſe two, undergo coagulation, as I have ſaid in Calx or Lime, and daily experience alſo witneſſeth.

Hence Red Stones are congealed by a little Blood, which falls down in the ſame place from the Acid, out of the eroded vein; wherefore they are more friable and brittle; but the other Stones, having much-lage joyned to them, are whiter and therefore harder. This is that, which my *Hippocrates* moſt skilful in *Chymiſtry*, doth proclaim. *Theſe things are thus brought to paſs by Divine neceſſity, yet they know not what they do, but every thing fulfils his deſtined fate*: which is, as if he had ſaid, both theſe Spirits or Faculties, being joyned together, in whatſoever place, muſt of neceſſity concrete and congeale, but being ſevered, they effect nothing in Nature, neither can they ſubſiſt, *being neither ſufficient for themſelves or other things*, as my Doctor ſays. So that, manifeſt Acidity without the Stomach, in whatſoever place it be, is Morbous and Inimicous to Nature.

This Doctrine of the Old man is moſt true, for it is daily obſerved in practice, that Stones do concrete all vacuities of the body, whereſoever the Acid being out of its place, by miſtake meets with the Alcaly, as in the Lungs, the Liver, the *Vena porta*, the Ureters, the *Inteſtinum Colon*, and the Bladder of the Gaul: which is againſt the moſt Acute *Galen*, who teaches, *That the Stone is generated in the Bladder and Reins only by heat*: wherefore the Stone of all Animals

I know it, ſays the Author of the Roſary, becauſe of neceſſity the work muſt come to ſuch a Nature

L. 1. *de Diat.*

L. 11 *de loc. affect.*

(of which we now speak) hath nothing in its Compoſition, but Acid and Alcaly, both Volatile, as alſo Blood or Mucilage; but when it is coagulated in the Bladder of the Gaul, then it lays hold of that bitterneſs which it meets there; *ſome going hither, ſome thither, and being throughly mixed amongſt themſelves, &c.*

Hipp. L. 1. de Diæt.

Hence we may learn, of what Vertue in dangerous Diſeaſes, the Water tempered with or poured upon the Stone which is found in the Gaul of an Hedghog, may be; which yet ſome ignorant Practicioners do mightily extol: 'tis a wonder they are not afraid of this Stone, as of an igneous or fiery nature, ſince it is better from the Gaul, which hitherto they have not obſerved. If the ablution of this Stone were good for any thing, ſurely one drop of the Gaul of the meaneſt Fiſh, were much better then twenty Ablutions thereof.

Wherefore from the coagulation of the Stone, it now appears, how far *Lithon-Tribon*, *Cantharides*, *the Blood of an Hare*, *of a Fox*, and the like, have hitherto profited in the Stone; ſo that *Paracelſus* rightly judges, that the Stone (and the Knotty Gout) are coagulated like Tartar, by two Faculties, according to the Doctrine of *Hippocrates* (*i. e.*) the Acid and the Alcaly; it alſo coagulates with it ſome *fæces*, which by chance it finds there; and *Galen* witneſſes againſt himſelf and his followers, *The cauſe being known, 'tis eaſy to find the remedy*; and therefore whatſoever of the Stones of Crabs, of *Lapis Judaicus*, of Flints, of the Stones of Carpes, of Perches, and the like, being in Powder, or diſſolved in Vinegar, is taken at the mouth for the Stone, it indeed imbibes the Antecedent cauſe of the *Coagulum* (*i. e.*) the Acid as I have ſhewed; but it doth not abate or diminiſh the Stone, when it is once coagulated. So alſo Salt things, by reaſon of their Acid part, do hinder the concreteing of the Stone, in as much as they conſume and drink up the Alcaly of the Urine, ſo that the Acid roving up and down the Body, can find no Alcaly wherewith to aſſociate or be coagulated; but Salt things

Lib. 7 de Meth.

things do not dissolve the Stone, when it is already concreted.

But that common Salt doth imbibe and absorbe into it self the Alcaly of Urine, and other Alcalyes of Animals, as I have shewen above in the preparation of Sal-Armoniack, so I will now further demonstrate by another experiment.

'Tis known, That the flesh, of whatsoever Animal, is preserved by common Salt, which in a few days runs down there-from into a Salt Sanguineous Liquor: Boil about a pound of this Liquor, and scum it, and put it into a Glass Retort, and with a gentle fire, draw forth all the moisture; lastly, cover the Retort with sand, increasing the fire, then the Alcaly of the flesh will be elevated into the neck of the Retort (like the Alcaly of Urine;) which the common Salt had absorbed and drawn out from the flesh; only by a few days maceration and steeping; after the same manner, the Salt which we eat, must needs consume and drink up the superfluous Alcaly (gathered together here and there in the Cavities or Ventricles (as *Hippocrates* says) which is unfit for Transpiration; reason it self dictates this, and experience beareth witness thereto; for Alcaly by an easy process is sublimated out of Urine, and the Sea-salt remains, as it was eaten, in the bottom, the same way as I just now shewed, concerning the Salt Liquor of Flesh. The Dignity of Common Salt.

Hence we may gather, That Salt is bestowed on Mortals; as a necessary support of Health and Life.

'Tis plain from our antecedent Discourse, that by a Mechanical necessity, the Stone is not dissolved, unless by a middle Sapor between Acid and Alcaly; This Sapor is changed into Urine, of great Strength, and grateful to the intestines (as hath been said) and it ought to be subtil, that it may pass up and down and pervade all freely. If you will call this way of dissolving, either by its contrary, or by its like, you do not much mistake, for the Alcaly if it dissolves, 'tis done by its like; the Acid, if it destroys, 'tis done by its contrary: Who (of what Sect soever) besides *Hippocrates*, could have unfolded this Riddle to us, wherefore *Galen* com- The Wisely, nothing more natural, than a thing to be dissolved by that, of which it is compounded. *Hip. de loc. in Homin.*

* *Ad Glaut.* commends Him, not without Cause, as * our Director in Physick, and an excellent Master in the whole course of our Life.

There is also a Specifick Remedy, known to few, which in young people fully and perfectly takes away the Stone of the Blader, without relapse, and elder persons may also take it at Mouth, without any inconvenience. I would willingly communicate it, if I were not afraid of Impostors; but chance here more prevails then reason: The *Asthma* and *Epilepsie*, are also perfectly cured by the same Remedy.

A Remedy for the Stone, Asthma, Epilepsy.

CHAP. XV.

A Thing unheard of, and admirable, yet most ancient, discoursed of.

I Have already declared, That the Acidity in the Stomach, I have also shewed, That the Stone, Urine, Sweat, and Blood, are Salt. I have also shewed, how the Salt or Sapor taste is divided with fixed Alcaly, that so the Alcaly may be freed from the Acid; now it is my part, to shew, how, Urine, Sweat, and Blood, *&c.* do acquire this Salt Taste? All Aliments, and whatsoever doth nourish, have but a little of the Acid, and much of Volatile Alcaly (as hereafter will be more clearly shewed) (*i. e.*) as much Acid as will bind up and restrain the Alcaly, that it vanish not away (*for alone it is not sufficient for it self*) as I have formerly noted out (of *Hippocrates*) the Acidity of the Stomach acts upon that Alcaly; of these two Sapors is made a Salt-Juice, which being impressed with that Acid Vital Characters, is called Chyle: This passeth not through the Mesaraicks, neither is it admitted thereunto, unless it put on (after its own manner) a Salt Taste (*i. e.*) a mature one; otherwise it will be ungrateful and troublesome to the inward parts; and so, the Acidity of the stomach, vivifies the Chyle, that it may be made fit for nourishment.

L. 1. de Diet.

Hence

Hence it is, that my * *Hippocrates* saith; *As the Stomach nourisheth, heateth, and cooleth in Animals; so doth the Earth in Vegetables*, which sounds thus; That the Stomach is the President of all Actions which happen in the Body, for the sake or by means of Vital Acid alone lurking there. I think there is no need, that the Urine of great Drinkers and Toss-pots (who by reason of the quantity, they swallow, do piss every hour, especially, if it be Watery Rhenish Wine, which they drunk) should pass through all the Channels and Ducts of the Veins, for then it would come forth tinged, but their Urine, though like in colour to simple Water, is notwithstanding Salt, like That which is produced from moderate drinking; which the Alcalizate Lye proveth, as I have shewed concerning Sweat: On the other side, the Urine of dying men, though they make it, in a little quantity, and tinged to, yet it altogether wants Saltness, and also Alcaly, (besides the common; if they take any in their Meat:) wherefore of necessity that Saltness must be generared from the Impression of the Vital Acidity, having it's place in the Stomach; which forsakes dying men by degrees.

* *De humoribus*

Urine of sound men, Salt.

Urine of dying men Saltless.

By this observation, 'tis as clear as noon-day, that the Vital Instrument, in sound animals, (wherewith the Aliment is impressed, before it glides from the *Pylarus*, lest it should putrify, as I have said out of *Hippocrates*) is Acid, wherewith the Chyle, in the very Stomach (representing an Egg, or grain of Seed,) must be made Salt. In one word, Chyle is made Salt, by and with the Acidity of the Stomach, and the Alcalizated Aliment; So is also the Urine Salt for the same Cause (even of those who never tasted any Salt) their flesh and bones, yea the very excrements of the Belly are Salt, yet the Alcaly hereof, though it be an hundred times Rectified, in a few hours, is again changed into That, which it was, by means of the Ferment of the Place, or of this hidden Acidity, lurking and abiding there; whence We learn, that the Alcaly of every thing, doth contain and keep and preserve the occult Acid (imperceptible to sense) of the Animal, or else of that part, whence it was taken. For which Cause *Paracelsus*, being illuminated by the Ancient

The Proto-Chymick dwells in the Stomach.

This Experiment shews whither a Glister can nourish.

The difference of the Alcaly of Animals cannot be distinguished by our senses.

Ancient Hippocratical Science, and after him, the Famous *Helmont*, have specificated a Liquor for the Stone, * *Ludus* (by reason of the Symbol; or the Ferment of the place, which it may be lawful for me, to intimate;) (So the Viperine Alcaly, having an Alexipharmacal property (after its manner) is restrained from flight by the above-named and declared Acid, and it is celebrated in very many Diseases, especially in the Feet-Gout, Joynt-Gout, and its species, (whose pain, as *Paræus* first hath observed with unspeakable benefit and advantage) is not without occult Poyson) to which, in an exigent, I add a little powder of *Sena*, of *Hermodactiles*, and of *Cremor Tartar*, *ana* a *Scruple*;) but it goes through all the passages of Man's body, in an occult Saline form, like Sweat; but when it finds a more Acid Sapor in the Cavities, Articles, and Joynts, then it relinquisheth its proper Acid, and imbibes that more potent, dolorous, and burning One: after the same manner, as it happeneth in Corals dissolved in Vinegar; on which, if a more Acid liquor be instilled, as of Vitriol, or Sulphur: This associates it self to the Corals, and neglects the Vinegar, as is well known to every puny *Apothecary* (see also the necessity of Precipitation, *Chap.* 28.) But when the Acid is not alcalized into Salt before it passes through the Meseraicks, and by chance is received and entertained within, creeping even to the Blood, it waxes soure, and presently there follow Feavors and Pleurisies; for the Blood, sent forth at that time, concretes into clotts, because the abounding Acid, drives the Alcaly together, as I have shewed in Milk. In this case our Ancestors have found out Specifick Remedies for the Pleurisy, friendly to the Stomach (where they resist not nor hinder Digestion) which abound with Volatile Alcaly, that they may restrain and consume the Acid, such as are, Goats-blood, Juice of Wild-Succory, the Peezil of a Stagg, or Bull, the Seeds of *Cardui*, and the like, which are prescribed at this very day with good success, especially after Letting-blood, the blood being now soured in the Veins; for then the aforesaid Remedies do easily absorb. That which remains, after the same manner as

* *Ludus* is the Stone cut out of Man's Bladder.

L. 7. c. 2.

Pain of the Gout from *Acidity.*

Different Cooks seldom prepare wholsom Meats.

Remedies of the Pleurisy.

I

I have ſhewed concerning Crude Vitriol precipitated with Liquor of *Tartar*, for one only drop of either Sapor exceeding the other, turns the whole mixture either into Alcaly or Acid; ſo one drop of the Acid, if it enters into the blood, cauſes a Diſeaſe. Hence it appears that Health conſiſts in a very narrow point, which is a temperament, *ad juſtitiam*, or *ad pondus*, as *Galen* ſpeaks; *Which we rather ſuppoſe and imagine, then that it really is.* Hence * alſo that of *Hippocrates*, *Bodies advanced to their full vigor, ſtay not there, but as weighed in an equal ballance, turn down to the contrary ſide.*

*L. 11. de Temperam.

*L. 1. Aph. 3.

By what hath been ſaid, the reaſon is manifeſt, why Vitriol exſiccated, performs vital actions, with blood, ſweat, urine, or execrements, as it may be drawn to ſome certain Object, of which I forbear on purpoſe to ſpeak in this place, leaſt I ſhould exceed the bounds of a Compendium.

Wherefore the Vital Inſtrument, or Seminal Vertue, (call it as you pleaſe) in all things, is Acidity, either hidden, or manifeſt. This Vertue reſides *manifeſtly* in the Stomach, but in the other members *obſcurely*, as * *Hippocrates* witneſſeth. *Man*, ſays He, *hath more than one Ventricle, all the Muſcles have their Ventricle.* Now it is the office of the Stomach to change one thing into another, by the help of the two faculties (*i.e.*) the innate Acid, and the acquired Alcaly, for ſo we are to underſtand this, as my *Hippocrates* enjoynes, ſaying, *Men cut wood with a Saw, one draws to, another thruſts from, ſo alſo is the nature of Man.* So that the aforeſaid Acid (which I have ſhewed to be occult in Milk) aſſumes the Alcaly in the Aliments, and whatſoever is not repugnant to its own nature, it coagulates it with it ſelf, and increaſeth into a bulk which is vulgarly called *Nutrition*, but by my Maſter, *Natural Labour*, ſaying, *Man cannot be healthy, unleſs he Labour, but it is meet and fit that a Phyſician throughly know the force of Labours, both of the Natural and alſo of thoſe which are done by force; and which from them prepare Fleſh for augmentation and growth*, as upon the Authority of *Hippocrates* I have given rude Examples in Lime and Sope; but theſe

* *L. de Art.*

L. 1 de Diæt.

* In the beginning of the forecited Book

things being obscure, by reason of their brevity, in the following Chapters, I shall more largly explain, discovering every thing particularly, which here are but generally propounded, *That you may know Nature to be alike in every thing*, as the Venerable * *Pythagoras*, with my *Hippocrates*, doth teach.

* *In aureo carmine.*

Since therefore, whatsoever is put into the Stomach, ought to be changed into a Salt Volatile, and the Chyle is not proportionated, but by reason of some Error, from within or without, hath more or less of Acidity, as we see in Drunkards, who sometimes vomit up what they drink in, of an Acid taste; then, * the importune Acidity, creeping through the Meseraicks, becomes unfit (according to *Hippocrates*) for Aliment, and for the Subsequent Ventricles, and then, the whole Body falls into an unequal heat, and because the Aliment is disproportioned, it must of necessity be unfit for Exhalation, as *Hippocrates* again teaches in the fore-cited Book, *Of necessity*, says he, *those things which are severed and produced from it, must be unlike*, &c.

* If it be forced violently, and overmuch, it loses its success.

Hipp. l. 1. de Diæt.

Whence we say, that the Pores are obstructed, and transpiration hindered; and then a Feavor, or other Disease, must necessarily follow. Hence every Disease, according to *Hippocrates*, doth generally consist, either in matter coagulated, or in matter more or less dissolved; and it differs according to the quality of the taste or sapor, of which he reckons an infinite number, *in his Book of Old Medicines, and in his Aphorisms, Sowre Belchings, which were not before, comming on sowre and stinking ones, is a good sign*; he means not in every loose Disease; for Example, In the Flux of the Belly, Acidity is deficient in the Stomach, and in those Persons where it is, there happens a Flux, or loosness of the Intestines from too much Salt Sapor, which Sapor doth at least dissolve those things, which are but lightly and gently concreted; yet it is never pernicious, but is overcome by Milk alone, because Milk is easily mixed and washed off with Salt things: But if the Acid and Alcaly are proportioned with a due heat, in every Ventricle, *like adhearing to like*, with-

L. 6. Apho. 1.

out

out any ſtrife or variance. This is called *Sanity*, and ſo *Smegma* Sope is perfected and coagulated, which alſo it ſelf, if it be diſproportioned, becomes Morbous, and muſt be diſſolved by its like; and again, by its contrary (as I have ſhewed above) it muſt be reduced and recocted for Sanity, and be coagulated into Salt. *Hipp. 1. de Diæt.*

'Tis enough to have hinted at theſe things belonging to this matter, concerning the riſe and generation of Volatil Salts in the Animal Family, unleſs any man ſhall object, that Volatile Salts are therefore made becauſe we eat Salt things; which I have ſhewed before to be impoſſible, by reaſon of the fixedneſs of Salt; yea Salt is found in Urine, as it was eaten, being unchanged in its Form and Nature, and without the leaſt Alteration, as may be eaſily experimented (*i. e.*) *viz.* by the inſpiſſation of Urine, and afterwards by its Calcination, Solution, and Coagulation, where Salt is found granulated; as alſo, Men live on the *Alps* of ſimple Milk alone, whoſe Urine notwithſtanding, is not deſtitute of Acid and Alcaly, which though concreted in the form of Salt, yet it is not granulated as Sea-ſalt, but of a Cubical form; nor doth it endure conſtant in the Fire, but the Alcaly, with a gentle heat, forſakes the Acid, as Experience doth declare..

CHAP. XVI.

A return from the former Digreſſion, to the Mechanical Demonſtration of Alcalyes.

I have ſhewed the way of Extracting Alcaly out of Sweat, ſo alſo out of Urine, out of Blood, out of the Fleſh of all Animals; I have alſo declared that Alcaly, with the Acid is changed into Salt, not only in the Stomach, but in all the Ventricles, of which * *Hippocrates* reckons an infinite num- * *L. de Arte*

ber; and when that Salt hath done its work, then together *with its diſſident or contrary (i. e.)* with the unctuous excrements, it tranſpires; and is carried off into Elements, as it happens in all ſublunary things, and I have ſhewed in Fixed Salt of Tartar and Oil (and ſhall afterwards do it more plainly) and alſo in Artificial Sope, which after it is made, and hath ſerved for uſe, will return into Water and Earth; which tranſpiration and reduction to Earth, *ad orcum*, will more manifeſtly appear by Examples.

L. 1. de Diæt.

Vitriol ſeperates *Alcaly* from *Acid.*

Let any one drink, or but lightly taſte, a little Vitriol of *Mars*, and preſently his Tongue waxeth Black, ſeeming to ſwell, as if it were furred with Velvet, whoſe Pores, are always turged with the Exhalations Occultly Salt, which either are mingled with Spittle, or vaniſh into Air; ſo that as ſoon as ever the Acidity of the Vitriol of *Mars* perceives the hidden Alcaly in the Spittle, in a trice, it ſeparates the *Colcothar*, which ſticks to the Tongue and makes it Black. But leaſt you ſhould think I ſpeak of incredible things, behold an Ocular Demonſtration.

Diſſolve *Vitriolum Martis* in fair Water, into the clear Solution, inſtill by drops the fixed Alcaly of Tartar, *(i. e.)* the Liquor of Tartar, then the *Colcothar* falls obſcurely greeniſh.

Alcaly	*Celandine*	*Precipitates diſſolved Vitriolum Martis of a*	*Yellow*
	Lavender		*Green*
	Wormwood		*Orange*
	Roſemary		*more dark then*
	Volatile urine		*Salt of Tartar*
	Sweat		*Darkly green*
	Blood		*Brighter*
	Vipers.		*Obſcurer*

Colour.

Salt of Bean-ſtalks, troubles it into a Yellowneſs, and after an hours reſt, elevates Ocre from the bottom: Common Salt, as being the perfecteſt of all Salts, is mixed with Vitriol; So alſo *Mercury ſublimate*, being an arti-

artificial Salt, and alſo all Acid things, do not precipitate Vitriol.

Wherefore only Alcalyes do precipitate Vitriol, enclining to black at bottom, but they are not found fixed in a living Animal; but are only Volatile, and being perpetually compact with the Acid, after they have ſerved for uſe, do exhale from us, and tranſpire with the Acid under an Occult-Salt-Sapor, which will more clearly appear.

The whole body of Man, as long as he lives, is Expirable and Conſpirable, as *Hippocrates* firſt obſerved, and whatſoever expires, is occultly Salt; but this Salt evaporates not only to the External Surface of the body, but the greateſt part of it falls down to the inteſtines; which is thus proved.

Drink Vitriol of *Mars*, diſſolved in water, and you ſhall ſee the excrements of the Belly tinged either black or green, after the ſame manner, being precipitated by the inward Alcaly; as I have already declared by experiment: but in the External habit of the body, diſſolved Vitriol is not precipitated by the Effluviums of Salt, therefore it paſſes in greater quantity, to the Inteſtines; So neither is the Urine tinged black, for the *Colcothar* is precipitated before the liquor is hurried to the *Meſaraicks*; ſo that of neceſſity it muſt remain in the Bowels.

If therefore the greateſt part of the Excrements paſs to the Bowels, being deſigned by Nature for Expulſion, It is ſometimes by miſtake detained in undue places by the Bonds of Coagulation, or to ſpeak according to *Fernelius* Language in the Firſt Region of the Body, and then of neceſſity it muſt be furthered in order to Expulſion, by ſome Looſning Medicament; So that it ſeems not to me, that all Looſning Medicaments are to be diſallowed in Diſeaſes, as ſome think, *neither are they alone ſufficient to procure health and recovery*, as the greateſt part of Phyſicians do believe and practice, againſt the Tenent of *Hippocrates*.

Purgatives alone are not ſufficient to recover health, as *Hippocrates* teaches.

But it may be demanded why Acid Fountains carrying Iron, make not the Tongue Black, as well

as the Excrements of the Belly? That happeneth, because the Natural Acid Spirit corroding the Vein of Immature Iron, being mixed with Water, is not saturated, but prevailes in the *Compositum*; and the Fountain being drunk off in the very Act of Corrosion, there is not then time given for Præcipitation in the Tongue; but as soon as the grateful Acidity is carried to the Stomach, then the *Colcotar* falls, or is præcipitated from the Alcaly, which flowes to the dissolved Iron, for defect of one faculty and excess of another, and whatsoever of Mucilage they catch in that Coagulation, they constrain into their own Nature; as I have above-shewed in the Concretion of the Stone, by the Authority of *Hippocrates*, and in a rude Example in slacked and dissolved Lime. This *Coagulum* is called by Physicians *Obstruction*. The Acid or the Alcaly may now and then exceed in it; so the Stomach repugne not, which is the president of all Actions, as **Hippocrates* teaches; or if the Acid Waters touch the place (which pass not beyond the *Diaphragma*, a thing to be noted) they without doubt destroy it: I said that Acid waters are to be drunk in the very Action of Corrosion; (*i. e.*) they are to be taken from the living Fountain, for if they flow down a little from it, then the Action ceaseth, and the Acid Spirit being spent and consumed by the unripe Iron, grows faint, and with the Solution is præcipitated into Ocre, which affords not a Black (for it is not præcipitated with Alcaly) but a yellowish bottom, as it happens to all Vitriol, passing through and carrying Iron. A Physician of the Canonical Sect, having learned well to quarrel out of *Aristotle*, a few years since, caused Water out of a Fountain, corroding a Vein of Iron, to be brought from the Country about *Trent*, to a Noble Senator of this City, being *Hypochondriacal*, who fearing lest the Corroding Spirit would exhale, commanded the Water to be filled in Glass-jars of a long Neck, and Oil to be poured a-top, and so to stop their Mouths with Wax, and to bind them with a Bladder, rejoycing by this subtle Device, as it were, to have imprisoned

Obstruction what.

* *Lib. de Humor.*

soned the Spirit of the Fountain, which he looked upon *as Spirit of Wine*: yet notwithstanding to such men as these, though they are ignorant of the Instruments of *Medicine*, God so permitting, we entrust and commit our Lives, Fortunes, Wives, Children and Families.

Hence the bold, though ingenious, * *Helmont* crys out, *That a Physician is now adays a rare thing in* Europe. This man if he had been truly versed in *Hippocrates* his School, and had read over the Book of Nature, he had never so shamefully discovered himself, *neither would Physick, the Noblest of all Sciences, be accounted the meanest*: I say he might have known, that the Acidity doth not exhale, but only by its Action on the Iron, grows weak, and then exhales not, but both of them go to bottom in the form of Fæces, which is called Ocre: neither can I sufficiently admire the vanity of some pratling Boasters, who with the same stupidity, hold forth the distilling of a Fountain, and divineing by the bottom; so Rich men are sent away empty, and without advantage or benefit.

* *Tract. Catar. Delirum.*

* *Hippo. de Lege.*

Claud. de ingressu ad infirm. c. 1.

The *Spaw* Water is much more Acid, and though it corrode a Vein of Iron, yet it retains a certain Acidity, and therefore it permits it self, and is capable to be carried to another place.

The Renowned Fame of this Fountain, about ten years ago, moved a Noble Vicentine, curiously to enquire into the Nature of this Fountain, for his own healths sake; to whom I briefly described its properties, and for what Diseases it was good, being at that time with the Most Illustrious *George William*, Duke of *Brunswick* and *Lunenburge*; though afterwards I went into *Low Germany*. The Noble Man being returned home, by chance related to a Physician of that City, what I had said concerning the Fountain; whereupon he wrote a long Letter, under pretence of Advice, to the Famous and Excellent *Theodore Konerdaig*, the Dukes Learned and Chief Physician, which he sent unsealed to the Dukes own Hands, and in the Margent my Name was Inserted, that it might easily be read by him

Falſity hath little ſtrength.

him viewing the Letter; the Duke reading it, and diſdaining ſo mean a Fellow, asked me, whether I knew who wrote it? I denying it; 'Tis well, ſays he, that thou art Deſpiſed and Reproached by the Vulgar, read it and hand it to Mr. *Konerdaige*, that he alſo may know who Wrote it.

'Tis the part of a Wiſe man to undervalue the Calumnies of the Unskilful.

The Incomparable Prince gave no ear to Backbiters, but carryed himſelf, as if he had never read their Reproaches. The whole Contents was nothing but Calumny and Railing; wherein he accuſed me, for bringing in a new Philoſophy; which Reproaches, ſavouring of nothing but a malignant mind, and ſtupid ignorance, let them go as they came.

Spirit of *Vitriol* Dyes the Teeth yellow.

But to the Matter, As Vitriol, and all Waters, containing diſſolved Iron, are præcipitated into a black bottom, ſo alſo, the Acid Spirit of Vitriol it ſelf, although it be rectified, retains the *Liquamen* of the Metal; on which, if the pureſt Alcaly be poured, it is præcipitated indeed, but not into a Black, but into Colcotar, conſtant in the Fire; wherefore they that uſe this Powder for Whitening the Teeth, are much miſtaken: 'tis true, it ſtrengthens the Gums, but it dies the Teeth, with a moſt tenacious Yellowneſs, as Vitriol it ſelf makes them Black; for perpetually and neceſſarily ſomething of moiſture doth exhale from us, filled with Alcaly, which alſo about the Cavities or Alveoli of the Teeth, precipitates Colcothar out of the aforeſaid Spirit, which ſticks to the Teeth, and makes them Yellow.

CHAP. XVII.

Upon Occaſion of Vitriol, the Salts of Vegetab[illegible]*re more exactly and throughly conſidered.*

I Have formerly told you, That neither Acid nor Salt, nor any other Sapor, doth overcome and deſtroy Vitriol, but Alcalyes alone, but the Juice of

of unripe Galls, falls in with Vitriol, and makes a coalition therewith into black, deſtroying and abſorbing the Acidity thereof; and therefore this Juice is to be reckoned amongſt Alcalyes; after this manner, Ink, and all Black Tinctures are made: yea, when the Acidity of the Vitriol is not, to ſufficiency, combibed by the Alcaly of Galls; which comes to paſs, when the Galls are too ripe, and are waſhed by the Rain; then the Alcaly doth expire, as it happens to all Vegetables, of which hereafter in its place; then the Vitriol erodes and eats out the Cloth, and it becomes as rotten; whence the Vulgar ſay, * *La robba e bruſada, nella tinta.* So alſo, Letters written with Ink, boiled with the aforeſaid Galls, do wax pale, becauſe the prevalent Acidity of the Vitriol, conſumes the weak Alcaly of the Galls, being waſhed with the Rain, after the ſame manner as any Acid Spirit ſpread upon a Writing, preſently deſtroys the Black Colour (*i. e.*) the Alcaly, which another fixed Alcaly doth again recover and reduce. So if you write with Water, wherein Vitriol of Iron hath been diſſolved, when it is dry, no ſign of any Writing will appear, but if you ſmear over the Writing with a ſimple infuſion of Galls, in a moment the Alcaly of the Galls makes the Writing Black, which by a powerful *Acid* or *Aqua fortis*, is preſently blotted out, *viz.* The Alcalyes being conſumed by the *Acid.* Again, ſmear over the Paper with fixed Alcaly, this will again conſume the *Acid*, and the *Writing* will re-appear. By what hath been ſaid, it appears, that Vitriol doth not dye Black, unleſs its Acidity hath been abſumed by ſome Alcaly or other.

Things much different do moſt of all accord. *Hipp. L.* 1. *de Diet.*

* The Stuff is ſpoiled in the dying.

The Ground of *Cryptography.*

But that the Alcaly of Galls may be made more perfect, anoint them over, at leaſt with ſome Fat, or with ſome Oil, the hidden Acidity of which enters into the Galls, being placed in a pot, in a ſlow Fire of Aſhes, leave them there till you ſee the Galls become Blacker, but not ſo as to be reduced to Coals; then their Alcaly will be more fit for Colouring, and an Ounce of ſuch burnt Galls, doth more than a

Alcaly of Galls.

pound of others; yea it colours of it ſelf, becauſe the Acidity of the Fat, by the Fire, hath acted upon its Alcaly.

Rinds of Pomgranates.

Very many Vegetables do abound with the like Volatile and Occult Alcaly, as the greater Houſleek, Sage, Rinds of Pomgranates; all which do ſpend and abſume the Acid of the Vitriol, and cauſe the Colcotar to be much leſs black.

A certain Prince of great Renown, an Enquirer into the Myſteries of Nature, wondered much, when he heard that a certain Gentlewoman of the Nurſery in his Court, had taken by Mouth, Rinds of Pomgranates (which are univerſally judged to be Adſtringent) which yet provoked the Courſes in her, which had been ſtopped ſome Months: To whom, when I declared the copious Alcaly, wherewith theſe Rinds do abound, and that the ſtopping of the *Menſtrua* did ariſe from that Morbous Acidity, which the Alcaly of the Rinds had abſorbed, it ceaſed his wonderment.

Things throwly mixed and divided are altered. *Hip. l. 1, de Diat.*

But you muſt note, that Artificial Vitriol of an Azure colour, (which is falſly called (*Cyprus Vitriol.*) doth not become black, with Galls, though they be burnt, but with Rinds of Pomgranates it tinges obſcurely Yellow: Now it is made of the ſpangles or thin flakes of Copper, by Spirit of Sulphur, or of common Vitriol; both which in a cold place, are Coagulated into ſomewhat long-angular little ſtones, hardly diſſolvable, and unfit for Diſtillation, becauſe it wholly wants that *Cupreous Sulphur.* This, with Urine, waxeth Green, and with the Alcaly of Urine, is caſt into an Azure bottom, which by Fuſion returns to Copper.

Diſtilled Aerugo yields Vinegar.

So alſo *Verdigreaſe* (as proceeding from ripe Copper and Vinegar) doth not wax black with Galls, but becomes of a light red or Spadiceous colour, and, by the Reformers leave, I know, and have experimented, that nothing but Vinegar will be diſtilled from thence, becauſe the remaining *Caput Mortuum*, after Diſtillation, by the fire of Fuſion, is reduced to pure Copper, of which more hereafter.

Whence it appears, that burnt Braſs, with toſted Galls, pro-

produceth not a black tincture, as *Alexius* of *Piedmont* promiſes, with which proceſs the Women of this Country do wonderfully vexe themſelves, that therewith they may black their hair; for as far as this compoſition tingeth any thing, it owes that Vertue to the toſted Galls; the burnt Braſs contributing nothing thereunto. *Alexius* his Secret.

But Cyprus Vitriol, is truly *Hermaphroditical*, richly furniſhed with natural Acidity, and *Cupreous* Sulphur; for which reaſon it is always moiſt, and never of it ſelf concretes into ſmall ſtones, wherefore it very eaſily grows black with Galls; which is a ſign, that it partakes of the Nature of *Venus* and *Mars* (for Vitriol of *Venus*, without *Mars*, doth not grow black with Galls, as I have ſhewed.) The Metaphor of *Mars* companying with *Venus*, doth not unfitly ſuit here.

For Iron and Copper, are of affinity one to another, as Male and Female. This Secret (ſayes Baſilius) *you may take notice of, but conceal, for it is of great uſe.* This Vitriol, diſſolved in water, is of a Tawney colour, if burnt Braſs be diſſolved in it, or flakes of Copper, or Iron, then it concretes into little ſtones, and becomes vendible, but inferior to that which is Medicineable. *De Vitriolo.*

The White Vitriol which comes from *Goſloria* and that alſo from *Carinthia*, doth participate indeed of *Mars* and *Venus*, but are not rich in natural Acidity, for which reaſon they very ſlowly wax black with Galls, a drop of this Solution, mixed with Galls, and falling on Paper makes a Party-coloured Iris, after it is dry. White Vitriol.

But *Romane* Vitriol, which abounds with Iron, though poor in Spirit, yet it colours quickly, becauſe of the Iron; So Artificial Vitriol, which is made of the fileings of Iron, with Spirit of *Vitriol* or Sulphur, doth tinge moſt readily; and therefore *Dyers*, for want of Sweet *Vitriol*, do add fileings of Iron to the Humid, and by conſequent the ſharp which it doth Corrode, and ſo the *Vitriol* is Dulcified. *Roman* Vitriol. *Vitriolum Martis artificiale.*

So alſo *Crocus Martis* (which is made of artificial *Vitriol*, burnt in a covered Crucible, till it be red) being diſſolved with Spirit of Salt: and digeſted with Spirit of Wine, acquires a golden colour, and becomes a noble Medicine. One drop alone of this Solution in half an ounce of the Decoction or Extract of Galls, becomes perfectly black; *Crocus, Martis, Solutus.*

pour out this black, and wash the vessel with clean water, and the Ablution will be of the colour of an *Amethyst*; A drop of the former, on Paper, after it is dryed, of its own accord represents divers colours, as a *Peacocks* tail, curious to the eyes of the beholders.

Whilest I was busied heretofore about these curious experiments, I perceived my fingers to be tinged with a Purple colour, as it happens from Gold dissolved in *Aqua Regia*: and the tincture endured for some days; This *Basilius* calls *Sanguis Veneris & Martis*, *The blood of Venus and Mars*, and commands us, not without reason, to observe it accurately, and to conceal it.

Gold. Gold corroded by *Aqua Regia*, and coagulated into the shape of *Vitriol*, doth tinge the fingers, as I have said, of a Purple colour; and with the infusion of Galls, the liquor becomes like yellow Amber, with which, if with a liberal hand you dawb over Paper, after it is dryed, it shines as Varnish.

Silver. Silver corroded in *Aqua Fortis*, of *Nitre*, and *Alome*, with an infusion of Galls, doth not change its nature; if you write on Paper with this mixture, after two days every black letter, is, as it were compassed with a Silver and shining list, which cannot be without Alcaly: Hence this rare Man may understand why the Ancients Metaphorically called Gold the *Male*, and Silver the *Female*: A drop of this Solution, if with a large hand it drop on Paper, after the silver list it draws and makes another of a Chesnut colour, a pleasant Spectacle, as if it were so painted on purpose: So also, *Tinn*, and *Lead*, being reduced into *Salt* or *Vitriol*, with the juice of Galls, as also with Alcaly of any sort, yields a white bottom (*i. e.*) the Alcaly of the Galls drinks up the Acid, and the Metal goes to bottom; but not so in Gold, nor Silver, nor Copper, *&c.*

Lead, *Tinn*.

Mercury. *Quick-silver* dissolved by Acid things, and re-coagulated with the aforesaid juice of Galls, waxeth but slowly Yellow, imitating Gold, which is to be observed.

Wherefore of the seven Metals, being dissolved by Acids, Iron and Silver, with Galls, do tinge of a black colour: Yea, Silver doth the same without Galls, and the black-

neſs appears after the Acid Spirits are ſpent. Other Metals, though diſſolved and re-coagulated, do ſhew as if they were *Vitriol*, but perform not the actions of *Vitriol*.

Find out the cauſe, if you can, for it is not unpleaſant to diſcover it.

A Semi-acid-Salt Spirit, Diſtilled from the *Caput Mortuum* of Tartar and *Sal Armoniack*, was mixed with *Bole Armonick*, of which above. This Spirit, with juice of Galls was greeniſh in a moment; From which I learned, that the *Bole Armonick* did neceſſarily contain in it immature Copper-ſeed, which the foreſaid Spirit catcht away with it in the torture of the Fire; I call it a Copper-ſeed, for *Vitriol* made of Copper, with Spirit of *Vitriol*, being precipitated with juice of Galls, appears of the ſame green colour, as I ſhewed above: but when it is made of common *Bole-Armonick*, then it is black. An admirable Spirit.

Whence it is clear, that the Volatile Salt, or the Alcaly of Galls, or of Pomgranate Rinds, or of Vulnerary Herbs, do not dye of a black colour, unleſs with Iron, diſſolved in an Acid Mineral. Foundation of black colour.

There is another obſervable thing, that a pure Acid natural Spirit, cannot be extracted or acquired by any man; for being Diſtilled from *Vitriol*, however rectified, it never forſakes the *Liquamen* of the Metal; neither can it be precipitated from it, by any Alcaly, after the common way; for in theſe it cloaths it ſelf again with a new body, and returns to what it was, as I have ſhewed in its place, yet *Paracelſus* doth praiſe that Acid Spirit, which is found near the Village *Veltin* in *Helvetia*, as in ſome ſort pure, as I have elſewhere obſerved.

Add hereto, the Counterfeit, which the Reformer boaſts for *Magiſtery of the Seed of Kermes*, which yet is nothing elſe, but the Alcaly of Allum; which ſucked up the Occult Acidity, from the very grains, for fear of a *Vacuum*, inaſmuch as it loſt its own proper Acidity in the Alcaly of Tartar. *Pharm. Regia*, *fol.* 282.

CHAP.

CHAP. XVIII.

Pass we now out of the Mines (Under-ground) into a pleasant Garden, to the more hidden Volatile Alcalyes of Vegetables.

Mechanical Instruments of Vegetables are the two faculties of *Hippoc. L. 1. de Diæt.*

ALl Vegetables, as well as Animals, have Vital Instruments, which they make use of, for their encrease and propagation. The prevailing *Acidity* therefore lies sleeping in the Seed (as in an Egg, or in a Stomach) with a little Alcaly, for its sustentation, and with the specifick *Rector* (of which elsewhere) but when it is cast into the earth, it is dissolved by Humidity, and excited by Heat: The Acid, as being igneous, begins to act upon the Alcaly, to which the Humid also comes, and the *Rector*, by the assistance of Heat, informs it: So invisibly, the Acid assumes the Alcaly, and the Alcaly again swallows up the Acid, *they tend to each side*, as *Ferments* do, yea they cease not, till they have finished their several and prefixed Courses for their proper ends; *one Spirit draws, another protrudes*, as *Hippocrates* in the fore-cited place.

The Mystery of *Fermentation* was heretofore hid on purpose.

So that, the Humidity of every Vegetable, contains *Acid* and *Alcaly*; in some, the *Alcaly* predominates, in others the *Acid*: The *Acid* is most known, but the *Alcaly* yet known to few; which I will now demonstrate to the Eye, in the sweet expressed juice of Grapes, as most known; wherein, the first days the *Rector* is Dormant, who, a while after, applying the Mechanical Organs, the *Acid* begins to Corrode the *Alcaly*, and This absorbs the *Acid*; and so there happens a vehement Contention and Fight, which from the Heat or Boyling is called *Fermentation*, which lasts till the *Acid*, as Victor, hath overcome the *Alcaly*: In this Fight both the Faculties (or Tastes, or Sapors, Instruments, Mechanical or Architechtonical, call them as you please, or else the Archeus, or Innate Heat *&c.*) undergo a great overthrow, there being made a mighty slaughter, the *Acid* being swallowed

Fermentum, quòd fervendo crescit.

ed up, deſtroyed, and enfeebled by the *Alcaly*, both mutually fall in a mutual embrace into a Cadaver (in reſpect of Wine) which is called *Tartar*.

If you Diſtill this *Tartar* out of a Retort, the *Acid* is excited by Heat, and begins again to act upon the *Alcaly*; and This likewiſe on the *Acid*, and ſo a new *Fermentation* begins, for which you muſt uſe a very ſlow fire, and though the Receiver be great, yet the incondenſible Odor of the Fermentation (which *Helmont* calls *Gas*) is perceived a far off; yet at laſt, the *Alcaly* overcomes the *Acid*, and doth plainly abſorb it, and both of them, for the greateſt part are fixed. The Liquor and Oyl in the Receiver are Saturated and Impregnated with Volatile *Alcaly*, which is of excellent uſe of it ſelf, yet known to few. If you again re-infuſe the Diſtilled Liquor and the Oyl upon the *Caput Mortuum*, then the Volatile *Alcaly*, which the Liquor did contain, is drunk up by the *Acid* in the *Caput Mortuum*, and becomes fixed, but that which then re-diſtills out, will be of greater Affinity, to the Element of Water, and ſo of leſs efficacy. But the Reformer here, as every where elſe, grievouſly miſtakes, for he ſays, *That Common Spirit of* Tartar, *which is not rectified from its remaining* Caput Mortuum, *is by no means to be accounted for pure Spirit of Tartar.* Spirit of *Tartar*. *Mantis Herm.* f. 745.

From this his Rectified Spirit of *Tartar* (and out of his own inſipid Brain) he compounds a Medicine, truly lamentable, which he calls, *A mixture of Three, from the Spirits of the Minerals.* *Mantis.* f. 750.

Firſt, The Volatile *Alcaly* in the *Tartar*, is Saturated with the *Acid* of the Sulphur of *Antimony*; That he calls the *Tartarized Spirit of Antimony*, if by chance, ſome of the Volatile *Alcaly*, do yet remain, what doth he then? He mortifies it with Vinegar from *Verdigreaſe*, and the Acid of *Vitriol*; whence this hurtful, though artificial and unprofitable Compoſition, conſiſts of Elementary Water and Vinegar; this mixture the Ancients called *Poſca*, to which the Reformer adds nothing, but the ſtinking ſmell of *Tartar*. But the Spirit of *Tartar*, being prudently Diſtilled by an Hippocratiſt, is not *Acid*, but ſomewhat bitter, and full of Volatile *Alcaly*; on which, if you poure

Spirit

Spirit of *Vitriol*, it waxeth hot, that you can hardly hold the pot in your hands; which is an evident-ſign, that the Acid of the Vitriol hath drunk up the Alcaly of the *Tartar*; as it happens when water is poured on Lime, and as in the ſlacking and heating of Lime, the Salts dye, and it degenerate into a *Neutral*; the ſame is to be underſtood of Spirit of *Tartar*, with whatſoever Acid it be mixed; ſo my Maſter *Hippocrates* teaches.

Things thoroughly mix'd, undergo alteration. *L.* 1. *de Diæt.*

I return now, whence I digreſſed *(i.e.)* to the Chymical Fermentation of Wine, for whoſe ſake, the Tartar fell to the bottom, as a Cadaver; But the *Acidity* ſpread through the Liquor, hath dominion over it, and doth defend it, and is called *Wine*, the Acidity whereof, is grateful to the Palate, becauſe of the *Alcaly*, with which it is joyned, and tempers the Acid, till at length the Acidity, weary of the Alcaly, or excited again by Heat, ſtrives to overcome the *Alcaly*, and ſo a new and inſenſible fight begins, and the Wine foures more, and is called by a common name, *Vinegar*: from which if the *Acidity* be ſeparated in a Limbeck, and the bottom burnt by fire, then the *Alcaly* is found out of that Tartarous bottom, though it ſeem impoſſible to ſome, to find *Alcaly* in ſo great an *Acidity*; yet it is true, and it is That which the Philoſopher means, when he ſays, *That it is impoſſible there ſhould be any matter, under which there ſhould not be ſome form.*

Without Art, there is not found a pure *Acid* in Nature unmixed with *Alcaly*, and on the contrary. *Hippoc. l.* 1. *de Diæt. Auſt.* 1. *Phyſ.*

Pour or ſuperadde Diſtilled Acid on this Alcaly, and evocate the watery flegme, having the ſmell of *Aqua Ardens*, or *hot water*, then from the *Acid* and the *Alcaly*, you ſhall have a re-generated *Tartar*, which out of a Retort, yields a fat Oyl, and a bitter Water, full of *Volatile Alcaly*; out of the Phlegme, through a Phyal of a long Neck, evocate the *Fat* burning watery part, which we call *Aqua vitæ*; the other part is elementary water; the Fat re-aſſumes the *Alcaly*, out of which again, extract the Elementary Water, and repeat this operation, and the whole ſubſtance of Wine paſſes into Water and Elementary Earth, void of all taſte and ſmell.

So the Rector by degrees vaniſhes from our External ſenſes into nothing, that Man cannot find out the work which God operates. *Eccl.* 3. 11.

Hence it appears, that the Juice of Grapes hath pre-

preſerved the *Alcaly*, and the *Acid* (in which the Rector doth inhabit) in various hazards, and ſeveral alterations, even unto its laſt annihilation.

CHAP. XIX.

An untrodden Path diſcovered.

THat which I have ſpoken in the precedent Chapter concerning the Juice of Grapes, the ſame is alſo to be underſtood of the Juice of all Vegetables; for in them all there is *Acid* and *Alcaly*, more or leſs, as *Hippocrates* and Experience alſo ſhew; but with this difference, that in thoſe Vegetables, which we call *Cold*, the *Alcaly* doth predominate, and they are not fermentable, unleſs by the help of an outward *Acid*, or being excited by heat; but in thoſe which are *hot*, the *Acid* prevails, and therefore they are eaſily fermentable, as in the Progreſs will appear. Alſo the *Alcaly* of *ſome* Vegetables is nearer to *fix'd*, and therefore it joynes in with *Acid Minerals*; as I have ſhewed in Galls, in the greater Houſleak, in Rinds of Pomgranates, *&c.* The *Alcalyes* of *others*, are much more delicate, ſo that *Acid Minerals* do preſently abſume them, in as much as they are nutritive and fit for the digeſtion of Animals, which conſiſts in a milder *Acidity*: of which ſort are *Winter-green*, *Sanicle*, *Bettony*, *Fole-foot*, &c. Which therefore are called *Vulnerary* Herbs, whoſe *Alcaly* reſtrains and hinders the injuſt *Acidity* riſing in the Stomach, as it leſſens it alſo in wonuds, becauſe all *Acidity* out of the Stomach, is hurtful, morbous, and accompanies putrefaction, which the Vulgar call *heat*, from the effect, for it cauſes a Feavour, and putrefies Wounds; many skilful Chyrurgeons have taken notice of that *Acidity* in wounded men, as the beginner of heat and putrefaction, and have therefore forbade them the uſe of Wine, and not without cauſe, leaſt the ſubtle and evaporable *Acidity* of the Wine ſhould encreaſe the Diſeaſe, I ſay, the *Alcaly* of

All things are corrupted mutually by themſelves the greater by the leſs, and the leſs by the greater. *Hipp. L. 1. de Diæt.*

Nature delights in its like nature.

these is not discovered with *Acid Minerals*, but because they themselves are Nutritive, therefore the said *Alcaly* associates it self with its similary Nutritives, and with gentler *Acids*, than *Minerals*. As for Example, Dissolve a drachm of *Sal Saturni* (made with Distilled Vinegar, for that resists not the Digestion of Animals) in about three Ounces of Distilled Water, which hath no *Volatile Alcaly*) of *Rosemary*, *Lavender*, *Rue*, &c. Suffer the Lees to settle: This Solution being sweet in taste, contains Occult Lead; drop the clear Juice of the foresaid *Vulnerary* Herbs, into this clear Solution, and it presently grows as white as Milk, which is a sign that the *Alcaly* of the Herbs absorbs the *Acid* from the *Lead*, which falls by degrees.

For as fixed *Alcaly*, præcipitates *Mercury*, and *Alcaly*, nearer to fixed, præcipitates Vitriol, as I have shewed before: so also here, a milder *Alcaly* requires a milder Examen.

Paracelsus, first observed That hidden *Alcaly* of Herbs, and it is probable that by the like Examen he took notice of their several minute degrees; he had taken notice, that in wounds, putrefaction came from *Acidity*, and from thence, arose feavorish heats, and corruptions of Wounds; he also first prescribed Vulnerary Potions, and did happily restrain the said *Acidity* and *putrefaction*, and called the Herbs *Vulnerary*. And though *John Tanquilvius*, a French Man, and *Gabriel Fallopius*, an Italian, both famous Physicians, and excellent Chyrurgeons, do condemn and endeavour to explode Vulnerary Potions in the Cure of Wounds, affirming, that by their heat they inflame, and extenuate the Blood, and excite its eruption from the Wound; yet though *simple* Vulnerary Medicaments are not known to every Chyrurgeon, and and are prescribed without distinction and knowledge of their degrees (for all cannot attain this pitch of Science) nevertheless Experience shews, that the aforesaid Potions are useful; with which, also *Paracelsus* cured the Ulcers of the *Lungs*, (as Histories witness,) and also the *Hectick Feaver* (as I have also experimented) which

Paracelsus his *Analytick* knowlege of Bodies.

Ulcers of the Feet or Thighs, and Wounds, are Cured by Potions; why may they not do the same in the Lungs?

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is an universal and inept *Acidity*, and that of the solid parts, which in one word, we call *Heat*, and which, the aforesaid Alcalys do more readily absorb and consume, than Milk; as I have shewed in its place, and the cure it self demonstrates.

Therefore Vulnerary Potions are not to be rejected, but used with good Success, in the curing of Wounds.

Many of the accurateſt sort of *Chyrurgeons*, and *Physicians* have taken notice, that *Acidity* is the cause of Heat and Pain; as also that burnt Harts-horn absumes in it self Vinegar, and other Acids of all sorts, whence it comes to pass, that it is given with good success in *Feavors*, in a great dose, from half an ounce, to an ounce, in any cooling water, containing Volatile *Alcaly*; For, as they have observed to their great joy, that the said *burnt Harts-horn*, absorbs and imbibes the Acid Volatile Salt from Vinegar, so it takes away the Acidity accompanying several sorts of *Feavors*.

The brevity of this Compendium will not allow me to discourse of Specifick Acid. Yet see *ch.* 21.

Besides Vulnerary ones, there are also more Occult and Volatile *Alcalys* in Herbs, which we call *Cooling*, as *Lettice*, *Purslane*, *Colts-foot*, *Endive*, and its species; whose Alcaly, is very Fugitive, and is found, not only in their Juices, but also in their Waters carefully Distilled: Whence we may learn, that such Herbs being *dryed*, are of no value, because their *Alcaly* hath evaporated.

Occult *Alcalys*.

So also the Distilled water of *Frogs-Spawn* (the whole Spawn with Patience is elevated in *è Balneo* into a pure water, the black and dry Grains or Specks, being left behind, which are not to be rejected) doth abound with Occult Volatile *Alcaly*, and doth presently precipitate *Lead* out of the aforesaid Solution, more readily, and copiously, than any other cooling water: This water is much to be esteemed in many diseases, arising from a peculiar Acidity: I have known a desperate Hemorrhage from the Womb, happily cured by it, in as much as at first it sucks up the Acidity of the Blood, afterwards it restrains and expels it.

Cooling waters have an occult *Alcaly*.

Also this water applyed to the grieved part in the *Foot-Gout*, presently asswages the pain, in as much as it mor-

tifies and alters the Acrimony: But when the pain is more violent, then the Acidity is in greater quantity and vigor, and the Volatile *Alcaly* consuming the cause of the pain, then must needs, be more manifest, for it indubitably takes away the pain; whence we learn, that the cause thereof proceeds from *Acidity*, if otherwise, *the principal indications are to be taken from things helpful and nocent*, as *Avicen* teaches.

Volatile *Alcalys* ease the pains of the *Gout*.

Foolish therefore, and almost Frantick, is the opinion of certain Canonical *Physicians*; who, against the Doctrine of *Hippocrates*, out of ignorance do fear, and perswade the simple, that a greater mischeif is occasioned by undertaking to Cure by contraries, and by endeavouring to repel the *Catarrh*, by such Simples.

For *Hippocrates* shews, that Volatile *Alcaly* is empty and void, and that it takes away all pain of the *Feet-Gout*, (I mean not the knotty and coagulated Gout) all *Arthritick*, *Nephritick*, *Sciatick*, and such like pain, in a very short time, if it be but outwardly applyed, in as much as it presently imbibes and assumes (being impatient of Vacuity) the Acidness, which is the cause of the pain.

The knotty *Foot-Gout* doth coagulate, as the *Stone*, at least by a diverse Acid. *Hippoc. l.* 1. *de Diæt.*

But not only waters, Distilled from cooling Herbs, but also common water both of Wells and Rivers, contains an Occult *Alcaly*, by means whereof it nourishes Animals and all Plants; *Red hot Iron, quenched in water, acquires strength thereby*, as *Hippocrates* teaches in the fore-cited Book, and daily Experience shews; for Iron hath too much of the Volatile *Acid*, whence it readily passes into Scoria and Rust, but when the Acid is imbibed by the Alcaly, then it is made more compact, and resists more; therefore Cutlers of Knives and Swords, anoint their work with shavings of Horns, heating their blades till the shavings melt, and thus they draw the *Alcaly* out of the Horns, and their blades become stronger. Hence it is, that such as pass by their shops, do sometimes perceive the stinking smell of burnt Horns. But it is easily proved, that an Occult *Alcaly* is in common simple water, by the fore-mentioned solution of *Sal Saturni*, which presently grows white thereby: So, if

Simple water doth nourish, and there is a great Secret in water, as *Hermes* saith.

Let Canonical *Physicians* observe, that the Alcaly of common water, doth not af- in a Lim- Where- illed, ot, as of

Silver

Silver be diſſolved in *Aqua Fortis*, and you add ſimple water to the Solution, it preſently waxes white as Milk, but when the ſame water hath been diſtilled, then the Alcaly, doth not aſcend, neither doth the Solution of Silver grow white any longer thereby. For which cauſe *John Baptiſta Porta*, adviſes Water to be twice, or thrice diſtilled, for a Tree of *Silver* and *Mercury*, which the Vulgar fooliſhly call the *Philoſophers Tree*: So alſo Water diſtilled from *Cephalick* herbs, doth precipitate neither Silver nor Lead from the above-named Solution; For theſe, as I have ſaid, contain not Alcaly in their Juices; So that the Water, diſtilled only, from cooling Herbs, as alſo common water not diſtilled, do contain a Volatile Alcaly; by means of this Alcaly, Water doth nouriſh: Hence *Lactantius* ſaith, *From Water are all things*; which, before *Hippocrates*, *Thales Mileſius*, alſo knew, perhaps by the benefit of this Art, as *Laertius* witneſſeth in his Life; So the Ancient *Hermes*, *Water*, ſaith he, *is ſuſceptible and producible of Nutriment in Men, and other creatures*: And *without Water*, *Nature operates not*, *&c.*

Lib 5. Magnatur. c. 3.

L. 1. c. 5.

Now becauſe our diſcourſe is fallen upon Cooling Waters, I ſhall not paſs over in ſilence the abuſe of Roſe Water, which is ſaid to cool, but it is diſproved by this Experiment.

At *Venice*, Roſe-water, as commonly all other waters, are diſtilled out of a Copper Veſſel (ſometimes lined within with Tinn, though oftentimes the Tinn, for age, is worn away.) This Water is preſcribed to Children, becauſe it kills, and expels Worms, and ſometimes provokes Vomitting, which Operation, and Vertue, is Vulgarly aſcribed to the Roſe-water, whereas Roſe-water is not ſimply cold, but of a temperate nature, as containing an occult and inſenſible Acidity, which is unſeparable from it, never leaving it, till it be annihilated; but in flowing through a Copper Limbeck, its Occult Acidity abrades and takes off certain Atomes from the Copper, which are inviſibly mixed with the water; if you would diſcover or ſeparate the Copper, drop into a little quantity of this water, one or two drops, of the Alcaly of Urine, and preſently all the water turns green,

Roſe-water doth not cool unleſs it be diſtilled through Lead.

Green, becauſe the Acidity of the water doth more greedily catch the light Alcaly, more ſimilary to it than the Metal, which therefore by little and little, ſubſides into a greeniſh bottom; Then the ſame water, doth no longer provoke Vomit, nor kill Worms, but will be like *That* which is Diſtilled through Glaſs Veſſels; but melt the green bottom with *Borax*, and then it returns to Copper again.

All Pot-herbs contain a *Volatile Alcaly* and cooling, and, as all woundherbs beget Milk in Nurſes; for *Acidity* is an hindrance to Milk.

Neither is this Occult Nutritive *Alcaly* found only in Vulnerary and Cooling-herbs, but in all Pot-herbs whatſoever, which are therefore deſired by the Stomach, abounding with *Acidity*. This *Alcaly* is the cauſe that ſuch as eat boiled Cabbage or Coleworts, before a fit of Drinking, are ſeldom inebriated, for the *Alcaly* of this Herb, as it moderates the inebriateing *Acidity* of the Wine in the Stomach, ſo it abſorbs and conſumes That in the Glaſs.

Specifique Medicines.

But why certain ſimples do ſpecifically Cure ſome Diſeaſes, as the Juice of Yarrow, the Hæmorrhoides; Fumitory, the Jaundies; Butchers Broom, the Diſtempers of the Urine; Guajacum and Sarza, the French-pox, and the like; and wherein all the Faculties of Purging ſimply do conſiſt; it would be tedious to declare in this place, let it ſuffice to have given ſome ſmall hint of it, at leaſt in this Writing, wherein, even againſt my will, I have been inforced to diſcover Salts hitherto Occult.

Objection.

But I hear ſome whiſpering an Objection, that I endeavor to ſhew the Volatile *Alcalyes* of Vegetables with diſſolved Lead, whereas all Salt things do alſo precipitate Lead from this Solution (as we have confeſſed before) but with this difference that the Lead falls down with the Salt in the form of a Powder: Diſtil the clear ſwimming upon the top, and you will have Vinegar, which carryed the diſſolved Lead, but it falls from the Vinegar, becauſe Salt hath a greater affinity with Vinegar than Metal; but mix the *Alcaly* of the Herbs, or rather drop the Juice of the aforeſaid Herbs into that Solution of Lead, then it doth not haſtily fall down in form of a Powder, but becomes as a Pultiſs: Diſtil

the

the ſupernating Liquor, and then you ſhall draw from it, not Vinegar, but an Inſipid Water; which is a manifeſt Argument, that the *Alcaly* hath ſuckt up the *Acidity*.

How much Light this Hippocratical Doctrine may give to a Phyſician, as well in compounding Medicines (that one ingredient hinder not another, yea the Vertue of Simples may by this Knowledge be wonderfully exalted) as in Curing Diſeaſes, let thoſe judge who know how to diſtinguiſh Taſtes and Sapors, and moderately to invert and vary them, which at preſent I ſhall only demonſtrate in that one Example of the Nettle, which being freſh and moiſt, ſtings and bliſters, but dryed, aſtringes, and ſtops blood: the Juice thereof is coagulated in diſſolved Lead, into a Black Gobbet, which again in fixed *Alcaly* is preſently diluted into an obſcure, but penetrable colour; whence we learn, that dryed Nettles boiled in *Alcalizate Lye* (yet ſweet as they call it) do hinder Gray and Hoary Hairs, if every day they be kembed with them; with *Vitriol*, it again concretes into yellowiſh clots, which, with the Spirit of the ſame Vitriol, are again diſſolved into a clear and pellucid Liquor. Such, I ſuppoſe, were *the hidden vertues of Roots, and the differences of Shrubs*, of which *Solomon* ſpeaks, *which he learned from the wiſe Artificer of all things, in his Diſputation from the Hyſſop to the Cedar of Lebanon*; for it is not credible, that He unneceſſarily diſcourſed of firſt Qualities, and of Elementary Degrees, which our *Botanicks* boaſt to meaſure, as it were, with their tongues: of *Theſe* it cannot be ſaid, that they are, *hidden vertues*.

Solution.

Vertue of the Nettle.

This is the meaning of that Speech of *Arnoldus de villa Nova* (though on other accounts, his Works want correction) *Where Simples are at hand, 'tis deceit to uſe Compounds*: Whileſt I heretofore applyed my Self to this ſtudy, I was much aſſiſted by that Eminent and Skilful Botanick, and diligent Apothecary, *Johannes Maria Fero*, of this City, who, with ſingular Care and Study gathered together all ſorts of Vegetables, to whoſe Induſtry I do owe very much, and accordingly I render him my real and hearty thanks.

In *Aph.*

By

A Powder against a Quartan.

By the help of this ſtudy, I have alſo found out a Compound Powder, equivalent to, if not exceeding, the vertue of *Chinella*, in a *Quartan*, as they can witneſs, who have bought, and uſed it, in order to their Health.

CHAP. XX.

The Spiritual Repreſentation of Plants.

Out of what hath been ſpoken and declared, we may diſcover the foundation, on which the Spiritual Regeneration of Plants ought to be built, of which *Quercetan* ſpeaks in his Book againſt *Anonymus*, which he ſaid he had ſeen at *a certain Cracovian Phyſicians, who knew how to prepare the aſhes of every plant ſo Elegantly, and how to preſerve their Spirits (the Authors of their Vertues) ſo Exactly; that, having above thirty of them in ſeveral Glaſs Veſſels, Seal'd with* Hermes's *Seal, if any one aſked to have a Roſe, or a Marigold ſhewed him, then he would put the bottom of the Veſſel, wherein was the Roſe-aſhes (and the like of any other Flower, which he was to ſhew) to the Candle, to warm it a little, and then that fine and impalpable Aſhes of it ſelf, would repreſent the evident form of a Roſe, encreaſing and growing by degrees, manifeſtly exhibiting the figure of a living florid Roſe, which ſhadowy repreſentation, when the Veſſel was removed from the heat, would again return to aſhes. This Secret*, ſays he, *I ſought after with great ſtudy, but could never attain it.*

The Vulgar burn by Fire, the Chymiſts by Water.

But this Spiritual Reſuſcitation of Plants, ſeems not ſo difficult to the Hippocratical Philoſopher, eſpecially when it is proſecuted, not with a violent, but a ſoft fire, therein imitating Nature, as our Maſter teaches. I have invented a way for it, which yet by reaſon of the incommodity of this place, for ſuch kind of Studies, I have not confirmed by Experience: yet for the ſake of the Curious, I will here ſet it down.

I

I have Ocularly demonstrated out of *Hippocrates*, that *Acid and Alcaly*, the Architectonick Instruments of Nature, are in all sublunary things; These, when they are not subjected to the Artificer, but left to the government of Nature alone, then That subject encreaseth and grows strong, as the meanest Flint declares, of which I have spoken in his place: If then it encreaseth and grows, of necessity the Acid, and * Alcaly must have something, which directs their Operations to their proper ends.

* I have elsewhere shew'd that the Spirit, is the Bond joyning Soul and Body.

This, I elsewhere call the *Rector*, give it what name you please, provided we understand the thing; for I shall not quarrel about words. These Three, *Hermes*, that most ancient Philosopher, calls Body, Spirit, and Soul; So that these Three are latent in that Terrene Receptacle, which represents to us the figure of a *Seed*.

Nature is like in every thing, as *Hermes*, *Pythagoras*, and a terward, *Hippoc.* teacher.

Let half a pound of this *Seed*, for instance of *Poppy*, from a full flower or head, be gathered in fair weather, which you must keep in a temperate place till the next Spring, then in the Evening, observe the clearing of the Sky, whether it promise a fair Night, for the Night must be fair wherein the Seed is to be exposed on a large board of Glass, with the edg turned up, that it fall not down, and placed in a Meadow or Garden full of divers Flowers and Herbs (for unless the soil be fruitful, the Dew will be but barren) In the Morning before Sun-rising, you must carefully take away the Seed, now moist with Dew, from the Glass-Board, and put it into a Phyal, fit for that purpose, having its mouth close sealed with Wax, and so keep it, least the Dew should evaporate (which is very light by reason of the Spirits) these Spirits in the following Chapter I shall shew *, being occultly Acid and Volatile, yea being the hidden Food of Life; with which the Dew is so impregnated in the Air, that when it is included in an Egg-shell, and put upon a * Spear placed obliquely, then the Egg is lifted up by the heat of the Sun, to the top of the Spear (as * *Hildebrand* teacheth) but that the said Dew may be sucked up by the Seed: Afterwards in a clear Night, re-expose the said Glass-board with the Seeds, into the aforesaid Meadow, that it may re-attract and draw in the Dew, which you must also a-

They were small Vessels; says *Quercetan.*

* See *Cosmopolita.*

* Which I think ought not to be round.

* *In Magia Natura.*

again seal up in the aforesaid Phyal, before Sun-rising, that it exhales not; so the Seeds by little and little, by means of the Dew suck'd in, will begin to swell and be turgid, the Acid and Alcaly, acquiring strength from the Dew, and Heavenly Influences, which the Rector will then begin to direct. Let this setting out, and taking in, of the Seeds, be so long repeated, till the Signs of Germination and Vitality do appear. In the interim, whilest these things are a doing, you must, in the same Meadow, stretch and spread abroad clean Linnen-cloths, on wooden-sticks, and so gather the Dew on them, and wring it out, keeping it in a Glass Vessel well stopped, which in its Settling, will afford or depose some Fæces (from the small dust flying up and down in the Air): of this pure Dew, pour as much on the Seeds, as may be about an Inch above them, and so place them, in a Vaporating Bath (for * *Raimund* teacheth, *That what Nature doth, by the heat of the Sun and Stars, the same it will do by the heat of Fire, provided it be so ordered, as not to exceed the motive and informative Vertue, which is in the matter of the Celestial Influences*) stopping the mouth of the Glass with melted Sulphur: The Acid and Alcaly, in the Humid and Calid, then begin to act upon one another, and so they will be freed from the Earthly body of the Seed, in which they were included; and in the space of a few days, this natural Composition, will wax Green at the top (as it happens to Stagnant Waters, in shadowy places, by the ambient heat of the Summer.) Under this Green Film, is the union of the Faculties perfected, which I have shewed to be Volatile, and together with the Rector, unseparable from the Acid (being immortal *per se*) which union may be called *Confermentation*.

* Is Testamen. c. 24.

Ex Hipp. L. 1. of Diet.

The Receptacle, or body of the Seed, will be a dead Substance, which in a few days will suck up the Viridity, (*i. e.*) the Bubbles of Fermentation, with the Superfluous Liquor (as we see in Pools, growing green at top) and by little and little, it is turned into a most fine Powder, like Ashes, when it is come to a ripeness. This Vessel, being warmed (so doubtless *Quercetan* saw it) the Levity of the Dew, being Confermented with the *Rector*, and the

the Faculties of the Seeds, will represent the image of *Poppy*.

The mouth of the Vessel, if it be melted with Glass, I judg, will never decay, and because the Practick part doth not attain to, nor follow the Speculative, word for word, there is therefore need of a Skilful and Ingenious Operator. Hitherto, as I have said, I never had a fit place at *Venice*, to make this tryal, nor ever shall, for want of fruitful and pure Dew, which is here troubled by the continual steaming of * *Halimere* (as the Walls of all the Houses shew) with which, the very Dews being also subtle exhalations (as *Aristotle* teacheth, and our own experience confirms) are mixed, and so they fall down mix'd again.

* *Halitre* is made of Exhalations of stinking Urine, and other mixtures, embracing one another. *Lib.* 1. of *Meteors*.

Such a shadowy Regeneration of things, was hid by *Paracelsus* (being illuminated in this Natural Hippocratical Doctrine) under the Vail and Metaphor of the Generation of Man, whom, certain Grandees of Physick, being ignorant of this Doctrine, understanding litterally, judged him, as an Impious Man, to Banishment.

Sennert. de Consil. Edi. C. 4.

I add, that in the whole School of Philosophy, there is nothing, though never so diligently sought for, which doth more lively demonstrate to us the Mystery of the Resurrection, than these proper instruments of Nature, being cleansed from their Refuse, by an Hippocratist, and again conjoyned, re-united, and re-produced, if the said Mystery be at all demonstrable by Natural things.

CHAP. XXI.

A Summary Rehearsal of what hath been spoken.

THe Alcaly, and the Volatile Acid, in the family of Vegetables, are burnt together by Fire, into a Fixed, or a truly Alcalizate Salt. The way is indeed promised by the Reformer in his *Mantissa Hermetica*, in lofty words, but no where to be found, in the mean

Fol. 788.

time, he finds fault with those Salts, whose ashes are burnt with Sulphur; and he blames *Hartman, as a bad Writer, and says that nothing can be more foolishly taught*, than to mix Alcaly Salts, with Acids (as if he himself had not taught to mix the Alcaly of Vipers, with the Acid Spirit of Salt; as also the Spirit of Vitriol, with the Alcalizate Salt of *Wormwood*, under the title of *Coagulated Spirit of Vitriol*: and again, in his *Appendix* f. 100. he extolls, such mixed Salts, with great Praises) and a little after he again admits Ashes to be calcined with Sulphur. When uncertainty is the Mistriss, what can be chosen?

In his *Appendix*. fol. 101.

Mantiss. f. 788.

Know then, that no Vegetable hath any fixed Salt, of what kind soever, unless it be burned with actual Fire; So that the Acid, in burning, may act upon, and apprehend the Alcaly, and likewise the Alcaly on the Acid, as I have shewed in Juice of Wine, and its Tartar: As may be seen in rotten Wood, though you reduce it, never so carefully to Ashes, in what fire soever, you will never get Salt out of it; for the Acid, and the Alcaly, being both Volatile, are already absumed by the Air, and have left nothing but an unprofitable *Cadaver* behind, but if it be burnt before Putrefaction, then you may obtain your desire.

The Air doth Volatize.

Wherefore our chief care and labour in this Work, must be, that the Herbs may be fresh, and not withered; for then, in burning, the innate Humidity, when it boils up, doth dissolve the Acid and the Alcaly, which, being dissolved, do act mutually one upon another, and one apprehending the other, they are both fixed, according to the property of the Concrete: But that part, which flies away with the flame, and was not catched by the Acid, turns into Soot, from whence, you may by an easy Method, draw forth Volatile Alcaly, but never Fixed Salt, yet by ingenuity it is reduced to a Consistency.

This action may be called *Fermentation*, for the instruments of Nature are changed.

This action deserves to be called *Fermentation*, for both the instruments of Nature are changed into one *Artificial*, which, as in the Sope-makers and Glass-makers Art, is turned with the Acid, its contrary, into a Neutral thing; so also it happens in Man's body, when it is admini-

administred, with its contrary, by a prudent and Hippocratical Physician; *for it is the same Operation*, as our Master teaches. L. 1. of Diet.

Take Green *Wormwood* for an Example, when it is green, set fire to it, and kindle it in a Chimney, or open place, but take great heed that it doth not flame out, tis enough to turn it only into Ashes, which, after the burning, put in an Earthen-pot, large, and low, or also upon an Iron-plate, the edges turned up, and Coals being kindled under it in a Wind-furnace, that the Vent-hole, or Portal, as need requires, may be either opened, or shut: Stir these Ashes with an Iron Spatule continually, till they be very white, and then lay them in a Linnen-bagg Acuminated (or if there be but few, on Acuminated Paper) and pour on Common Water, which as it runs through it, being pregnant with Salt, is called a *Lye*; coagulate this strained *Lye* in an Iron Frying-Pan (not greased in the Kitchin) with a quick Ebullition, and make it up into a Lump, and when it is as thick, as Honey, continually stir it with a Spatule, and it will be dryed into a grey Powder, which presently put into a Pot not glazed, the mouth of the Wind-furnace being stopped, and cover it with small Coals, mixed with their powder, and leisurely heat it, scarce to Brunity, or Browneness, but not that it may melt, then cool it, and put the Salt, into a Glass Vessel, that it may be dissolved in a sufficient quantity of Water; stir it oftentimes with a Wooddenstick, then suffer the Solution to rest, two or three days, and when it is clear from the Lees, without much stirring, pour it out, and in a Leaden, or Glass Vessel, placed in Sand, suffer the Water to exhale, without Bubbles, till a Saline-Cuticle grow a-top; then remove the Vessel, and the next Morning, gather together the shining grains of Salt, which you must swiftly wash in clear water, and then dry: put again the remaining *Lye*, in the Sand, that the water may exhale, as before, unto the Cuticle. Both these Salts are to be kept together, in one Vessel, which being prepared after this manner, do resemble the Crasis and Disposition of their Concretes. The rest of the *Lye*, being of the taste of Urine, and of a stinking smell, is to be left to wash Glasses. This

This is the eaſy and natural way of preparing Salts of Vegetables, which do never melt of themſelves, nor are of an ungrateful taſte: A Pound of theſe Aſhes, will yield near four ounces of the pureſt Salt; but four pound of the Aſhes of dried Herbs, will ſcarce afford an ounce of Salt.

What Herbs yield *Alcalyes*, Salt or Acid, I have ſufficiently ſhewed before.

Alcalyes, out of Vegetables, are made after the ſame manner, of which yet ſome are eaſily turned into Liquor, for they are empty, and therefore deſire to be ſatiated from the Air; as I have hinted above in the Occult Acidity of the Air, which may ſuffice.

Mant. f. 789.

The Reformer teaches, that the aſhes are to be boiled, and the Lye thickned to Siccity, and afterwards committed to the melting fire, without *diſcretion*; So, in the place of the Vegetable Salt, there always comes an empty and cauſtick Alcaly; for the Salt of *Wormwood*, in its Fundamental Point, is of the Acid Salt, and not purely fixed, as I have ſhewn; but if it ſuffer Fuſion, then both Taſtes or Sapor act upon one another, and are fixed into an Alcaly, as it happens in all Acid Salts made by Art; wherefore from the Regimen of Fire alone, things are altered, and they change their Name, Vertue and Efficacy. This is the cauſe, that the vertues of Salts, prepared by ignorant Perſons, are never equal, *viz.* when they are Alcalyz'd, they are commended by the Unskilful (for example, Salt of *Wormwood*) to have done good in the *Collick* (which then came from Acids, which had been drank) but when it is prepared from Salt-Acid, and Volatile to boot, by the Skilful, 'tis good for the Stomach, and againſt Old Obſtructions, and is then the Baſis in the Cachectique Powder of *Quercetan*. The cauſe is aſcribed to Noxious Humours; So, many Salts, are made fixed, if they be managed with a due Heat, and with all Requiſites, as the Subject can bear, which otherwiſe were Volatile; for the fixation of Blood requires one kind of Heat and Inſtruments; the fixing of *Nitre*, and *Arſenick*, another; when the whole Nitre, by Odor only, is turned to Earth, it requires another Tractation; when *Mercury* of it ſelf, doth as it were grow fixed, there is need of another Fire, and Veſſel; there are other Requiſites, when

Fire is a Publick Profeſſor.

A Cachectick Powder.

All things are done by them through Divine Neceſſity. *Hipp. l. 1. de Diat.*

whon *Antimony* and *Sulphur* are fixed; So alſo there is another operation of Salts, which are all Volatile, as I have ſhewed in Rotten Wood.

This is the reaſon, why the wiſe and prudent Senators of *Venice*, do cauſe the Timber, of which they make their Ships of War, while it is green, to lye under water many years, in their gallant and well-provided *Arſenal*, leaſt the Air ſhould penetrate it, and by this means, under the water, it becomes almoſt as fixed and as hard, as ſtones. The *Venetians* Ingenious.

But if it begins to be quailed in the Air, before it be watered, then they muſt burn it a little, that the Acid and Alcaly, may be melted together, and as it were incruſtrated; and ſo it will endure many ages and never rot: In like manner thoſe pieces of Timber are incruſtrated, which are rammed into the Earth for Foundations of great Buildings, leaſt they ſhould rot.

The Gardeners in theſe Illands do reduce their Herbs, being dryed, in the Air or Sun, to Aſhes, and ſell the aſhes on their Words and Credit to the Apothecaries: who, finding they can get little, or no Salt out of them, do blame the Gardeners, alledging they were naught; Their anſwer is, that in Tranſporting the Aſhes, the Sea-water hath robb'd them of their Salt: many do eaſily believe this Excuſe, being ignorant of any other cauſe.

But when freſh Vegetables are reduced to Aſhes, as is done in *Lituania*, *Scandia*, and *Muſcovy*, for Pot-aſhes, then, in the Igneous-Ebullition, the Acid and Alcaly apprehend one another, are melted and fixed together. But when they are urged with a melting fire, as the Reformer teacheth, then they change their Nature, and are turned into Vitrifying Alcaly, as * *Zoar* hath obſerved; which yet was not much leſs fixed in the Concretes, before they paſſed through the fire; which again by Inverſion, doth not only put on Volatility, but is alſo reduced into Elements, as I have ſhewed in the Alcaly of Tartar. To this ſenſe *Baſilius* ſpeaks of *Sal Armon.* When my Wings are cut off, and I am prepared to the *Bath.* * On *Exod.*

But if Alcalyes, be boiled with their proper Diſtilled Oyls, in a juſt proportion, obſerving a due time, with an artificial and occult Circulation, and in a fit Veſſel; they afford *Ens Mirabile*. So Oyl of Cinnamon, being abſorbed, Oyl made Salt.

absorbed, by its proper Alcaly (being deprived of its restiments) effects in the *Palsy*, and such like Diseases, as much as can be hoped from it; Oyl of *Tartar*, being Volatile and Fat, with its proper Alcaly, in a just proportion, is made *Sope*.

Evil departs not from the unthankful Man's house.

When the Reformer heretofore had been informed by me, by word of Mouth, of this example of *Tartar*, he presently boils the Alcaly of Vipers, with Oyl of *Tartar*, being of a diverse Nature, after a Rural fashion, and with little heed, which, by Coction in a Glass of a long neck, with the Alcaly, acquired the consistence of Sope, yet he blames me for my Friendly Information, in a very long Letter, Saying, *The Oyl of Tartar, you advised me to pour on, became like very Pitch, and that so thick, when it was cold, that a man may cut it; So that I perceive you deceived me. 'Tis true, I heard from your mouth before, that the preparation of this Salt, would give great light to Chymistry*, &c. This great Naturalist had not so much Salt (as we say) in his Brains (though he writes and scribbles of Salt) as to enquire into the necessary cause of this Inspissation, but presently calls that, which he understands not, *A Cheat, and an Imposture.* But like, as he hath observed the cause of this Inspissation, which is known even to the Vulgar, and to all those who make Sope; even so with the same heed he hath observed the Things, which he Reforms.

§. 487.

Hearken therefore to me, All Oyl, and also all Pingue-Does or Fatts, have an Occult Acid, on which the Alcalyes act, and consume it, otherwise Sope could never be made: for the distilled Oyl of Olives, doth corrode and dissolve Silver insensibly, when it is cast on it but a short space, which would not be, unless Acidity were in it; the remainder being thick, better preserves Iron from Rust, in as much as the aforesaid Acid hath been taken away by Distillation, and is turned, by a strong fire, into a Coal Alcalized, which is plain to the Eye, by the affusion of any Acid Spirit. This is the reason, why the Chief Armourers and Overseers of the *Arsenal* of this Famous City, before they Oyl their Armour, cause the Oyl to Evaporate at a gentle Fire, almost to the half.

So

So the common People in ſharp Pains (proceeding ordinarily from Acidity) deſire to be annointed with the Oyl which burns before Images, and That aſſwages their Pain. This Relief, the Superſtitious People of *Greece*, attribute to the Image, before which the Lamp burns; But the true cauſe is, the Spiſſitude in the Lamp, loſes its more ſubtil Acid part by the flame, and ſo being deſtitute thereof, it grows impatient, and deſires to be Saturated with a new Acid, and finding That in the grieved part, it draws it out, and unites it, to it ſelf; and ſo the Grief either wholly ceaſes, or is at leaſt mitigated and abated.

Thick Oyl of Olives reſembles *Alcaly*.

The Vulgar believe, that Old Oyl is as good as Balſam, becauſe the Oyl of a Hundred years old in the Caſtle of *Breſchia*, eaſes many from their pains, ariſing from Acidity; in which Oyl, by reaſon of its antiquity, the Alcaly hath in part maſtered the Acidity, hence at laſt it grows very muſty; So Venerable Antiquity preſcribes Old Oyl in Compoſitions for External uſe.

Why old Oyl grows mouldy.

For the ſame reaſon, *rotten* Apples do cool, more than *boiled* ones; which therefore we call, *Anodynes*.

Rotten Apples.

Freſh Butter hath more Alcaly than Acid, and therefore it cooles more than Oyl; Hence *Schola Salerni*, *Lenit, & humectat, ſolvit ſine Febre, butyrum.*

Butter mollifies, moiſtens, and diſſolves, yet without a Feavor; for this cauſe, it is not coagulated in the Milk, unleſs the Milk be ſowred before, and if in making or Churning of Butter, fixed Alcaly be caſt in, which conſumes the Acid, the Butter will never *come*; for the Acid muſt coagulate the Alcaly.

Butter.

So alſo Alcalized Salts do eaſily flow, and are diſſolved in the Air, but as ſoon as Acid is poured on them, to overcome the Alcaly, they harden, and are coagulated.

Sulphur, in its Fat hath an hidden *Acidity*, and is moſt readily diſſolved, not only in Oyl, but alſo in Alcaly, but never in that which is manifeſtly *Acid*, though it be moſt powerful; but if it be fired under a Glaſs Bell, then its hidden *Acidity* is turned to Smoak, which is compacted into a moſt Acid Juice, and the Alcaly which erſt did friendly embrace the *Sulphur*, now is deſtroyed by It,

Sulphur is *Acid*.

and a new production is made, different from the former.

But Sulphur is praiſed by *Dioſcorides*, in the Diſeaſes of the *Lungs*; though ſome ſay, it is the *Anima* thereof, underſtand, when it is evacuated by an Hippocratiſt, and fixed into inſipid and milky Earth, then it becomes impatient of Innanition, and again deſires to be ſatiated with its like: Wherefore it greedily attracts, and abſorbes the putrefactive Acidity of the *Lungs*, which is firmly believ'd to deſcend from the Head, but without this preparation, it is found altogether unprofitable, for thoſe Diſeaſes, as the Enquirers after Truth, by Nauſeating experience, do daily find. This earth is then called by the Skilful, **Lac Sulphuris*, and that worthily, for it performes many things, which *Crollius* hath mentioned under its Title.

* Milk of *Sulphur.*

Moreover, Diſtill alſo Vinegar (in which I have ſhewed, that there is Fat Oyl, and *Aqua Ardens*) drive the dry Fæces out of the Retort, and there will come forth *Acid*, and Pingueous Oyl, reduce the Coal left into Aſhes, from Theſe, Elicite the *Alcaly*, by common Water, which again imbibes, and abſorbs its own Vinegar: out of the Phlegm is made *Aqua Ardens.*

From the *Alcaly*, and the *Acid*, you ſhall have regenerated *Tartar*, ſo there are *All, in all things (i. e.)* you ſhall every where find the *Acid* and the *Alcaly.*

All things in all things.

Camphire (about which, it is ſtrongly diſputed, whether it be hot or cold:) is a Volatile *Alcaly*, furniſhed and ſaturated by Nature, with its proper Fatneſs, as I have ſhewed, like things may be done by Art; for it imbibes into it ſelf the ſtinking and corroding Acidity of *Aqua Fortis*, which Suffocates by its very Smell, and with it, makes a Mock-ſhew and reſemblance of Oyl; but not with a benign, ſweet, and grateful *Acid* (as, Vinegar, and other Acid Juices) which is to be marked: After the ſame manner, *Camphire*, given at Mouth, doth preſently attract to it ſelf that Malign, inwardly Venemous, Stinking, Corroding, and Suffocating *Acidity*, which in Acute Diſeaſes, doth range through all the Veins, and tormen Patients without intermiſſion; whereby the Vital Sp

The often ſmell of *Aqua Fortis* breeds an *Atrophy*, with moſt bitter pains. See *Helmont*: c. 9. f. 71.

made purer, chearfuller, and acquires ſtrength, which *Avicen*, amongſt Practicioners, firſt obſerved; whence he rightly commends, and calls it, *A Treacle againſt hot Poyſons; The Vital Spirit*, ſays he, *acquires Subtilty, and exceeding Sprightlineſs, and Vivacity, from It, and therefore it chears and comforts*, even in ſpight of that Vulgar Proverb, *Caſtrat per Nares, Camphora odore Mares.* *Camphire.*

(i. e.) *Smell'd Champhires doſe,*
Caſtrates by th' Noſe.

I add this, in regard all that I have known, employed about purifying of It, from its Dreggs, by Sublimation, both at *Venice*, and *Amſterdam* (they are called *Reſinatores*) whoſe houſes, ſmelled of nothing, but *Camphire*, are moſt Salacious, Procreative, and full of Children, as, if you will not believe their own Confeſſion, their numerous Off-ſprings may evince. If I ſpeak not the Truth, let me be aſhamed.

Camphire ſo diſſolved in *Aqua Fortis*, and precipitated, or rather reduced, with plain Simple water, is made Soap, wherewith Womans hands being annointed, and afterwards waſhed with water, it takes away that roughneſs which exaſperates the Skin, and makes them ſoft, and as white as Milk; a ſingular Ornament for the Female Sex; for our * Maſter teaches; *That the care of the Sound and Healthy is to be alſo undertaken, for Comelineſs and Beauties ſake.* * In his book of Precepts.

As the *Alcaly* of *Camphire* drinks up nothing, but *Acidity* alone; So alſo doth *Antimony*, being deſtitute of its proper and innate Acidity, which conſiſts in a ſubtil venemous Exhalation, not at all weighty, as its Glaſs or Powder, called *Mercurius Vitæ*, doth ſhew, out of which with Acid Wine (its like, but not, with Sweet) is Extracted a Poyſon, which the Stomach abhors, and therethere this Wine taken at Mouth, with great violence is rejected from and by the Vital parts, both by Vomit and Seige; and by accident, it ſometimes Cures the Diſeaſes of the firſt Region. Hence *Helmont*, *As long as Antimony provokes Vomit, 'tis no remedy for an Honeſt Man.* *Antimony.* *De Febrib. c. 15. 6.*

But when, That Poyſon is expelled out of the Antimony either

either by the flame of the fire, or by kindled Nitre (of which, I have ſpoken in its place) then the Alcaly of *Antimony* is again Saturated with the aforeſaid *Acid* Spirits, which yet, coming from flame or Nitre, are not proper to *Antimony*; So that in a few days ſpace, out of the Air, It draws an Aliment, like it ſelf, as I have ſhewed in a Flint, which, out of the Air, extracts a nouriſhment like *it ſelf*, not like the life of a *Dog*; So, That, which erſt did gently provoke Sweat and Urine, now, like the very Glaſs of *Antimony* it ſelf, moves Vomit; Wherefore the flame, as alſo the Acidity of the Nitre, as they are not Poyſons, ſo they are not proper to the *Antimony*, now diſpoiled and evacuated; and ſo the Antimony, being reduced to *Alcaly*, and rob'd of all taſte or ſapor, which they call *Diaphoretick*, if it finds any Venemous thing in Man's body, it attracts it, and is Saturated by it (*For Nature rejoyces in its like Nature*) retaining it, and rejoycing therein, more then if it wandered up and down in Man's body: Wherefore that empty and Diaphoretick *Antimony*, profits nothing in Diſeaſes, unleſs when They are accompanyed with ſome Acid Poyſon, either occult, or manifeſt, as in the Plague, burning Feavors, Petectriales, or Spotted ones; and in diverſe inward Ulcers; in what place ſoever they be, the venemous exhalations of which, being abſorbed by the Antimony, then the Pores do open of their own accord, and the Antimony becomes *Diaphoretick*, otherwiſe not: Hence *Baſilius* ſays, *That this Powder is of great force, to Cure many old Ulcerated Diſeaſes*, &c. (*i. e.*) whoſe Acidities are putrefying and eſcarotick to corroding, for *Theſe*, this Powder imbibes and deſtroys, and hereby, as I have ſaid, the contraction of the Pores is enlarged and relaxed (this action, the Vulgar call, *Exſiccation*, for which cauſe it is alſo an Ingredient into that Plaiſter, which *Paracelſus* calls, by a barbarous Name, *Oppodeldock*. But what this Abſumption, Imbibition, Precipitation, or Exſiccation are? and how they are effected? I ſhall again Ocularly demonſtrate anon, when I ſpeak of the properties of Iron) and though Pearls, Corals, and other Cordials, do alſo abſume the *Acidities*, ariſing about the Heart; yet *Theſe* are not putrefactive, neither

joyned

The Mines of *Vitriol* in *Carinthia*, being emptied, in a few years, in the open Air, are filled again by it.

So are alſo the empty Mines of Salt-peter, at *Padua*, whence it is called, *Anima Mundi*, or *Spiritus Multiformis*, by the Wiſe.

For this reaſon *Baſilius* praiſes *Alcaly* of *Arſenick* as the Treaſure of Health; yet I would have none but the Learned to deal in it.

*In Repet. Antiquiſs. Lap. f.*80. in my Edition.

joyned with an hidden Venom; So that, it is one kind of *Acid*, which, emptyed and Alcalized, *Antimony* doth imbibe: another kind, that pearls Attract, in the Palpitration of the Heart: another, which Crabbs Eyes draw forth in Wounds and Bruises: another, attracted by Goats-blood, in Pleurisiies: another, by Iron, in Obstructions and Looseneſſes: another by the Volatile *Alcalyes* of Vegetables in Hecticks; another by thd *Bezoar* Stone, when rich men fall into a Swoon (I say rich men, for unleſs the proportion of this precious Stone, which is very dear, be correſpondent to that Acidity, which is hateful to Nature, it is given in vain. Hence *Crato* says, he never obſerved any good from it, though it were frequently given; which I perſwade my ſelf to be true, eſpecially it being preſcribed by Grains, as Books perſwade: The skilfulleſt Practicioners of this City, have obſerved this Defect, as well as *Crato*, who therefore perſcribe Weſtern *Bezoar*, not that it is better than the Eaſtern, but becauſe it is cheaper, and therefore it is given in a greater Doſe. For it is commonly believed, to provoke and expel Sweat, which effect yet it doth not produce, unleſs it hath firſt conſumed the Morbous Acidity (as * *Hercules* of *Saxony*, a Phyſician of note, hath obſerved) for this Stone is conſidered by them (as many other Simples) to act upon the Body, as a Wedg driven by a Beetle, not remembring, that, the Extraneous Sapor, being conſumed by the Stone (or its like) the contraction of the Pores is enlarged, and then the whole Body tranſpires of it ſelf, as old *Hippocrates* teaches: the truth of whoſe doctrine, is confirmed by a fly falling into the Eye, whoſe lids are preſently with great violence contracted, not that the Fly contracts them, but the Senſe abhors a Forreign Inmate; but as ſoon as the Fly is taken out, the Eye-lids are again gently relaxed.) I ſay, it is one ſort of Acidity, which *Paracelſus* his *Libium* doth conſume, in the Dropſy; another, which the Spiritual Salt of *Tartar* deſtroyes, in Hypocondriacal Melancholy, and all other Diſeaſes of the Spleen: another, that *Oſſiocolla* doth waſte, in the rupture of Bones; another, that Corals, with their ſpecifick Alcaly, deſtroy and abſorb in the *Gonorrhaa*, *&c.* But the aforeſaid Simples, do not imbibe

Commonly it called by the general name of *Heat*.

The weight of a drachm was given to King *Edward*, ſee *Monardus*.

* *Chap.* of Peſtilent *Feavers*.

imbibe (nor so much as enter into) the proper, innate, and manifest Acidity of the Stomach (as I have shewed) whereby it Concocts, and changes the food into an Acid Vital Juice, which is to be admired. Hence it appears, every Acidity, or *Aura* (call it as you please) expects, and willingly entertains its convenient Compar and Fellow (as I have erst shewed in the Earth of *Carinthia*, evacuated of *Vitriol*) wherewith it delights to be altered, absorbed, and transmuted, and one disturbs not the course or province of another: Hence Man hath obtained the Name of the *Microcosm*, and * *Hermes* says, *The things which are in the Superior, are also in Inferior Bodies.* These are the foundations of Physick, *according to the nature of Man, as its inventors first found it out, and judg'd it, an Art worthy to be ascribed to God, and it hath been so accounted, as the* * Old Man teaches; for, says he, in the cited place, *It is not Siccity, Humidity, Heat, nor Cold,* &c. *but Sapors*, which he there reckons up, *These*, my * *Hippocrates* shews, to be in the Cavities and Ventricles, saying, *That Man's Body hath many Ventricles (or Sapors) as they can witness, who are solicitous to know them* (he means only Chymical Philosophers, for by and by, he subjoyns) *of all the aforesaid things, there is none visible and conspicuous to the Eye: Wherefore they are called obscure by me, not that they remain always so; and do ever fly from our understanding, but, as much as is possible*, they may be understood and known. *For it is possible* (to Chymical Hippocratical Philosopher) *as far as the Nature of the Sick, doth assist in the consideration, and as far as the natures of the Enquirers, are fit for that purpose: For with much labour, and no small space of time, they are known and exhibited to the Eye. For those things which escape our bodily Eyes, are comprehended by our Followers, by the eyes of their minds*, so far he.

I have shewed before by *Alcaly*, that the Seeds of things in the *Macrocosm*, are *Acid*, so in the *Microcosm*, as well in the Healthy, as Sick. Nature studiously Observes the same consent as this daily and common Praxis doth declare.

* *In Tabula.*

* *De Veter. Medicin.*

* *Lib. de Arte.*

Many of these things, by the Authority of *Hippocrates*, I have clearly demonstrated to the Eye, as much as the brevity of a *Compendium* will allow, but not to the Intent, that every Hippocratist should imprudently practise or prostitute this Doctrine to, and before the Unskilful; Our *Master* vehemently forbids *That*, saying, *It seems best to me*,

De Prisca Medic.

me, that they who undertake to speak of this Art, should discourse only of those things, which are known to the Vulgar, not enquiring into any other, but the Diseases, to which they are usually Obnoxious: which is as much as to say, if thou record other things, besides the four Excrementitious Humours, to be the cause of Diseases, and does not pretend to expel them with their Concomitants and Attendants, the same way that others do; thou shalt be called a Fugitive, an Emperick, and a Paracelsian: Since therefore, our *Master* was afraid of Plebeian ignorants, an Hippocratist should often ruminate on that saying of the *Comedian*, *Quod scis, nescis.*

Speak, as the Many, Think as the Few. *Arist.* 1. *Top.*

To make no further Digression, Out of what hath been spoken, we may conclude, how meet it is, that all Alcalyes, without Acids, should be empty and inanous bodies; for fixed Alcaly, saturated with fixed Acid, is made Petrous, as I have shewed in Lime; but when It undergoes a melting heat, then they pass into Glass.

Alcaly is a *Vacuum* in Nature.

The same fixed Alcaly, boiled to maturity with an Occult Pingueous Acid, *the Humid-way*, is made Sope.

So fixed Alcaly, mixed with Acid Spirit of Salt, is made Common Salt, having all the properties thereof: So also fixed Alcaly, with the Acid of *Vitriol*, is made Vitriol, which is called *Tartarum Vitriolatum*; and though Writers affirm, that the Acid of *Sulphur*, *per Campanam*, doth not differ, from the Acid of *Vitriol*, yet it is not true; but, as all *Acids* do retain and preserve the properties of their seed, even unto the very Elements, as I have shewed before in Wine, so doth this Acid Liquor; for when it corrodes a natural Body, as Sand (for Example) having not yet undergone the fire, then out of It, is sublimated natural *Sulphur*: *Wherefore nothing in the world dies, but all things are transmigrated and changed*, as * *Trismegistus* rightly determines: and *Lucretius* also, *All things into their own bodies are dissolved, nothing by Nature is to nought resolved.* Fixed *Alcaly*, with the Acid Spirit of *Nitre*, is turned into Frigid Nitre, conceiving Flame, and is a Remedy for the *Quinsy*.

No body at all doth perish, nor is made That, which it was not before. *Hipp.* L. 1. *de Diæt.*

* In *Pimandro*, L. 2.

The same Alcaly, with the Acid Spirit of Wine, is made *Tartar of Wine*, as I have above largely shewn.

After

After this sort, says my Master *Hippocrates*, doth Nature also proceed, which turnes the Aliments, repleniſhed with a Volatile Alcaly, with and by the Acidity of the Stomach, firſt of all into Chyle manifeſtly Acid, and in the ſubſequent Ventricles, the Alcaly is coagulated, according to the property of the Occult Acid, which the Cavities contain within themſelves; So the Alcaly of the Excrements of the Belly, though it be an hundred times rectified, is troubled of its own accord, as I have ſhewed in its place: An Odorous ſmell is inſeparable from the Alcaly of Urine; the Alcaly of the Sweat of a ſound Man, doth not ſtink; ſo there is a different coagulation of the Stone, as I have ſhewn in its diſſolution and concretion. That *Acid* is different, which hardens the Alcaly in the Bones; another, in the Blood; another, in the Veins; another, in the Hair; and another muſt neceſſarily be in the Nails (Reaſon it ſelf dictates ſo much) for otherwiſe every thing would be generated of every thing; So alſo Sope made with Oyl, differs from That made with *Axungia*, and *this* again from *that*, made with Tallow or Suet. *All the Muſcles* (ſays * *Hippocrates*) *have their proper Ventricle*; intimating, that every Specifick Coagulation, doth alſo require a Specifick Coagulator, which though he be Occult, yet, by Mechanical neceſſity, he muſt needs be Acid; as I have evidenced in Oyl, Suet, Milk, &c. otherwiſe, nothing at all in the Univerſe would be Coagulated; *For the things, which have been ſpoken* (ſays my Doctor) *none of them can be ſeen with the Eye* (*i. e.*) none can underſtand my Writings, unleſs he be verſed in this Chymical, and Salt-fuſory Art.

The Ferments of the place which they call Mumail.

* 1. *de Art.*

De Arte.

Wherefore *Hippocrates* found out thoſe things, which, by a grateful conſent, are ſubject to the Empire of Art and Nature; On this Foot he places the unmovable Foundations of Learning, and from theſe he hath deduced all Mechanical Progreſſes, and Explications of Cauſes, ſo firmly, that if all Paper Books, with their Authors, were loſt; yet by this Method, out of the Great Book of Nature, they may be all again retrieved.

The book of Nature is to be read, but Paper ones, are not to be rejected.

Hence it appears, how many Fables have been aſcribed to this worthy Man, which he never ſo much as dream'd of,

of, yea many things, publiſhed under his name, ſuit not with his Profound Wiſdom, ſo that if he were alive again, he would be aſhamed to own them.

The permixture and alteration, which I have demonſtrated in fixed *Alcalyes* with *Acids*, the ſame alſo * my *Hippocrates* would have to be underſtood, of the Volatile Alcalyes of Animals, for, the Volatile Alcaly of any Animal whatſoever, being ſaturated with the Acid Spirit of *Vitriol*, aſſumes the nature of *Vitriol*; but, not having the Colcothar of Iron, it is precipitated, by juice of Galls, into a bottom of a Purple Colour, like to White *Vitriol*, of which above. * L. 1. of Diet.

Out of what hath been ſpoken, 'tis as clear as Noonday, that the Spirit, is the Vehicle and lodging place of the Soul, and the Bond joyning Soul and Body; which I ſhall alſo ſhew by the following Experiments.

For the ſame Volatile Alcaly, of what Animal ſoever, with Spirit of Nitre, is made natural Nitre, conceiving Flame, and is melted in the fire, like ordinary Nitre; The ſame Alcaly, I ſay, with Vinegar, is made *Tartar*, which is wholly Diſtilled into a Salt liquor, as I have ſhewed in *Mindererus* his Water; the ſame may be ſaid of other Acid Juices; for as fixed Alcalyes are vacuous and empty bodies, ſo are alſo the Volatile ones of all Animals, whoſe preparations the Reformer indeed teaches, which yet is very inane and empty, as all Alcalyes are. Hence my *Hippocrates*, moved to a ſmiling laughter, pleaſantly ſays, *They know not what they do, but they obey their deſtined fate.* L. 1. of Diet. Wherefore the Alcaly of *Vipers*, being a vacuous and empty body, is ſaturated by the Reformer (as empty) with great labour and coſt, with the Acid Spirit of Salt, and what elſe, I pray, but Common Salt, can iſſue from it? Behold the Cheat and Impoſture, which the Reformer hath at laſt *found out, with ſo much labour*, of which triumphing before the victory, he thus ſcribbles, *Whoſoever thou art, never think there is any other way of Fixing*; having ſpoken this, by and by he recants, ſaying (with a low voice) *If yet there be any Man, who hath greater Experience in theſe Operations, I give him occaſion, for the Publick good, that, what he hath Experimented herein, he would not ſuffer* Pharm. f. 486. Pharm. f. 485.

to die with him. Alas poor Man! why not? but go too, Let us comply with his desires, he hath made a fair Oration, and no doubt deserves a Statue from the Common-Wealth of Physick, for having so politely distinguished the Acid from the Salt, for the benefit of Apothecaries.

Append. in Animadv. fol. 75.

CHAP. XXII.

A Childish Opinion Discovered.

In Append. f. 52.

I Will briefly now run over the *Acids*, which the Reformer teaches, as contrary to Salts, which Doctrine yet, with many others, I find to be false, and full of Ignorance; as shall be demonstrated by Fire, keeping to the Terms usually received (for *Fire* is here the publick Professor and just Judge; *Logick* hath no such way of distinguishing, for *That* only handles true Sciences already found out, and propounds Methodically, and clearly and profitably to treat of what is to be known, in every knowable thing. But I have before distinguished the Tastes or Sapors of Salts, as much as was necessary for the understanding of this present Compendium. Let there be made a Powder of *Nitre*, and Common Salt, *Ana*, four Ounces, and two Ounces of *Allum*, to which add Simple Water, as much as is sufficient for the solution of the Salts (which act not, undissolved) and you will obtain a Salt Liquor, to which add two Drachms at least, of Leaf-Gold, mingle the Gold with the Salts, and boil them in a glazen pot, to *Siccity*: towards the end, encrease the fire, till it affords a smell like That of *Aqua Fortis*, so the saltness of the mixture erodes the Gold: Dissolve the white Mass in a pot, with Common Water, let the Solution rest in the Glass Vessel, till the Fæces of the Salt do subside: when it is clear, pour it out by inclination; to this clear solution, instil by drops, some fixed resolved Alcaly *Ex. Gra.* Liquor of *Tartar*, which presently absorbs the

Fire, both Internal and External, Explains the Book of Nature, as the ordinary professor of the Creator.

The Calcining of Gold, the dry way.

the more ſubtil Acid Spirits, and the Gold preſently falls of a Purple colour: In this Operation, the Salt hinders not the *Acid* Spirits, as the Reformer teaches, but the Alcaly of *Tartar*, conſuming the Acids, deſtroys the *Compoſitum*.

The ſame way, but with great force, diſtilled water of Nitre and Allum, in which Common Salt hath been diſſolved, diſſolves Gold, for if the Salt were not diſſolved in water, it would not corrode the Gold: Wherefore Salt doth not deſtroy the Acid *Aqua Fortis*, neither in the *dry*, nor *moiſt* way, but adds Vigor to it, like to *Sal Armoniack*; Hence *Baſilius*, *What is found in the Eagle, is alſo to be met with in me.* Calcining of Gold the moiſt way.

Hence it appears, that Gold is not diſſolved, but by Salts, but why the Acid Spirit of Salt doth diſſolve It, I have elſewhere ſhewed, *viz.* by corroding the Spirits, it returns to That, which it natively and originally was, *viz.* into Salt.

CHAP. XXIII.

Obſcure things, made manifeſt.

I Will ſhew another Experiment, very pleaſing to the Eye, manifeſting, that Salts are not contrary to Acids.

Take three pound of dryed *Vitriol*, two pound of *Nitre*, ſix ounces of the Flowers of Common *Sulphur*, and five pound and a half of Common Salt, and Powder of Bricks, as much as is ſufficient (leaſt the Salts ſhould be melted with the *Sulphur*:) Let there be ſix pound of this laſt powder, mingle the ſmall powders exactly, and diſtil the waters at leaſt out of Sand, put Gold Money into this water, without rectification premiſed, and in a few hours hours in a warm place, you will ſee the water tinged with a Golden colour (by occaſion of this Tincture, Tincture of Gold.

cture, It comes to my mind, that not without great labour, by the help of Fire, and much Diligence, a Volatile Alcaly (of which I have elſewhere ſpoken) aſcended of a grateful ſmell, ſo rare and light, that it can ſcarce be perceived by the touch, ſometimes of a grey, ſometimes of a white colour, of a Salt taſte, biting the Tongue, and ſo ſubtil, that, without the irritation by fire, in an open Veſſel, of its own accord, it evaporates to Air; whereas of it ſelf it remains conſtant in fire: I ſay, by the property of this Alcaly, Gold, Silver, Quick-ſilver, Chryſtal, *&c.* are made truly potable, ſo that, it is not only impoſſible, they ſhould return to their bodies; but moreover they are ſo freed from the bonds of Coagulation, that we may freely dally with them, *&c.* But theſe, and the like, being not proper for this place, I willingly paſs them over.) Pour out the aforeſaid water, and ſuper-adde other, and again diſtil it in a hot place, till the water be ſufficiently tinged; mix and ſhake the tinged waters together in another Phyal, and into that water put plates of Silver, firſt cuppelled, then the water tinged with a Golden colour, preſently grows Black, and in a few moments, all the Silver is inviſibly diſſolved, and all falls into a black Calx, which the Skilful in the Art, without contradiction, call *Gold:* But obſerve, that water not tinged by Gold, diſſolves not, no nor any way affects the Silver.

* Of the properties of Planets.

Hence * *Baſilius de Argento, I have devoted my Soul, my Spirit, and my Body to my King.*

Waſh the Gold-money, and you will find it ſomething paler, but to have loſt little or nothing of its weight: This Experiment is worthy of conſideration, but when the aforeſaid powders are diſtilled with a naked Fire, and open, more of the duſt of Bricks being added, then it draws forth no Tincture, but wholly diſſolves all the Gold: I ſay, this Experiment (though it ſeems uſeleſs, yet is pleaſant, and of great conſequence) doth not ſucceed without Salt: So that Salt doth not hurt theſe Acid Spirits.

Sulphur of *Antimony.*

So alſo ſimple *Aqua Fortis* of Nitre and Allum, or Vitriol, corrodes not, nor diſſolves Crude *Antimony*; but

add

add to this water, ſo much *fuſed* Salt (*i. e.*) clean and finely powdered, as it can diſſolve, Superfuſe This water on the *Antimony*, only groſly pounded, like the grains of *Millium*, and preſently, with a gentle heat, it acts on the *Antimony*, and corrodes the *Regulus* of it; on which preſently pour cold water, and you will ſee the *Sulphur* ſeperated, which ſwims a-top of the water, like Pitch.

The *Mineral* of *Antimony* from the *Rawian* Mountains, with red ſpots or Veins, ſo diſſolved, melts Gold.

But mark, that at one operation, you ſhould diſſolve not above two drachms, or there-abouts, for in a greater quantity, the *Sulphur* is alſo corroded by the water, and turns to Fæces. Dulcify this *Sulphur* with cold water, and it will look like the Common, only a little greener. This ſeparation alſo ſucceeds not without Salt, ſo that *Acids* are not hurt by it.

Of this *Sulphur*, adding two ſimples, you may make an Oyl, with which, if you annoint the Back-bone, Hand-wriſts, ſoles of the Feet, one hour before the fit, you may cure all intermitting *Tertian* Agues and Feavors.

A *Febrifuge* Oyl.

This *Sulphur* is the Baſis of the Artificial water, wherein if Silver be diſſolved, it precipitates the greateſt part of it, into a black Calx, which *Aqua Fortis* afterwards will not touch.

If Chryſtal be cœmented with the ſame *Sulphur*, as alſo Crude *Antimony*, marked with red Spots, mix'd with a little Orpiment and powdered, it acquires the colour of a Ruby, but take heed of the wind, for that will make it chink, and crack, or break.

Chriſtal tinged like Ruby.

This is that *Sulphur* of *Antimony*, which * *Helmont* adviſes us, to extract, ſcarce different from the Common in ſight, only it is a little more greeniſh; how much this *Sulphur* avails in the Dropſy called *Tympanitis*, They who having uſed it, know, as well as I: yea, I ſtrongly maintain, that *Rulandus* his Balſam is elicited from this *Sulphur*. *Helmont* goes on, make, ſays he, *Cinnabar*, I know many do much diſquiet themſelves with this Operation, but I will now openly and clearly diſcover it. Melt this *Sulphur* of *Antimony* in an Iron ſpoon, with a gentle Fire, when the Sulphur is melted, of which let there

* *Tract. de Veribus, Herbis, & Lapidibus.*

Remedy of Tympanitis.

* *Rulandus* Balſam of *Sulphur*.

there be *E. C.* an ounce and a half, add about six drachms of *Mercury*, a little over, or under, 'tis no great matter (for the *Sulphur* receives as much as it can mortify) mix them continually with an Iron Spatule, till they be cooled, reduce the Mass into Powder (which many fire or kindle with live coals, that the superfluous *Sulphur* may deflagrate) put this powder into a Retort of a large neck, (I say large, lest it be stopped by the *Cinnabar* ascending) and by degrees Distil it from Sand; then, that which is superfluous, either of the *Mercury* or *Sulphur*, runs down through the neck of the Retort; which gather up, then encrease the fire, that the Cupple may be hot, and the *Cinnabar* will be elevated; when all is cold break the Retort, reduce the *Cinnabar* to Powder, which you must seven times more sublimate *per se*, in a fit Glass Vessel, or Retort, and you shall have your intent. By the same way, Common *Cinnabar* is also made, but without repetition of the Sublimation.

Cinnabar of *Antimony.*

Common *Cinnabar.*

There must be but one Rector.

Helmont here purposely concealed, that it must not be *Common Mercury*, but *That* taken from the very body of *Antimony*. To what purpose is this superfluous industry (*Let me whisper this word to Our Chymists*) when as the same *Cinnabar* is Sublimated, after Distillation of Butter of *Antimony*, unless *Mercury* of *Antimony*, be here required.

Errors sought after, are found out by Operation, not else.

CHAP. XXIV.

Nocuments are Documents.

The Reformer is ignorant what *Hermes* thought of these Trifles.

HItherto in those Operations, which are all performed by Acids and Salts, it no where appears, that they destroy one another; now let us proceed to the Rhapsody of the Reformer, which he proudly calls *Mantissa Hermetica*, as we are told in his own Book, *Where the true preparation of* Mercury *Sublimate and Corrosive is*, (as he says) *presented to us.* Good Wine needs no Bush, as the Poet says, why he adds, *True preparation* to the Title,

Mantiss. f. 801.

Title, I ſee not. I ſuſpect, that after his accuſtomed manner, he hath a mind to cheat us with fair words; but let us do the beſt we can to prevent it.

Mercury (ſays he) *is rightly ſublimated with Salt and Vitriol* ('tis a wonder he did not fear, leſt the Salt ſhould deſtroy the Acidneſs of the *Vitriol*) but becauſe he found it ſo Writ by others, at length he adds, *That the Vitriol muſt be warily Calcined, leſt it be deprived of its Acid Spirit.* He thinks he hath adviſed ſome great matter here, as alſo by telling us, *That the Sublimation muſt be twice, or thrice repeated, with new powders of Salt and Vitriol.* But why, and to what purpoſe, this repeated Sublimation with new Powders? for *Mercury*, being once ſaturated with the Acid Spirits, what needs any Reiteration of the labour? eſpecially if it be true (as it is moſt true, in Nature) *That all things are governed by certain Numbers, Weights, and Meaſures, according to that of the Poet.*

Eſt Modus in rebus, ſunt certi denique fines,
Quos ultra citraq; nequit conſiſtere rectum.

(i. e.) *A mean, and certain Limits, all things bound,*
Beyond, or this ſide, which, the right's not found.

So that the nature of *Mercury*, once ſaturated with Acid Spirits, hath abſorbed and imbibed, as much as it can bear, and as much as it wants, from its firſt Sublimation, and though it be re-ſublimated afterwards, an hundred times, either by it ſelf, or with new powders, yet it ſtil remains the ſame Sublimated *Mercury*: So that, to reiterate the labour, is to make havock of the Powders, and to loſe time.

This is that, which the wiſe Man ſays in the Proverbs, *Falſe Weights and deceitful Ballances, are an abomination to the Lord.* *Chap. 20. v. 10.*

I know the way of Sublimating *Mercury*, is coveted by many, becauſe they fear, *That* which is Sold up and down, is mix'd with *Arſenick*, which, as a dangerous Drugg, ought not to be added to *Mercury* in its Subli-

Sublimation, by reaſon of ſubtil Poyſon, which it breaths forth in Sublimating, and choaks the Operators: I can ſhew, that 'tis a ſubtil Poyſon, by the danger I have experimently found in it, my ſelf.

Arſenick. For heretofore, when (by the perſwaſion of *Johannes Agricola*) I eſſay'd to ſublimate *Arſenick* ſo often, that at length it might remain fixed in the bottom of the Veſſel, for at that time (out of my eager deſire after Knowledge) I feared neither Smoaks, Vapours, nor any other danger: After many Sublimations, when I opened the Veſſel, I ſuck'd in a breath ſo ſweet, ſo grateful and benign to the Palate, that I even admired it, as having never felt the like before; but after half an hour, I perceived my ſtomach to be contracted and to ake, with a convulſion of all my Members, I breathed with difficulty, I piſſed Blood, with incredible Heat; ſuddenly after, I was taken with the *Collick*, and wholly cramped for the ſpace of an hour and half; being recovered by Milk and Oyl, I was indifferent well, yet a ſlow *Feavor*, like a *Hectick*, ſtuck by me all the Winter, which I cured by Decoction of Vulnerary Herbs, and eating the tops or buds of Cole-worts and Colly-flowers, boiled tender in Water, and ſeaſoned with juice of Oranges, Oyl, and a little Salt: yea I did ſo covet this meat, that I could ſcarce reſtrain my Appetite, till Supper and Meat-time: and by theſe Remedies, I grew perfectly well.

Geber de Argent. c. 18. and *Baſil. de Propriet. 7 Metals De fove.* But in ſpight of the danger, there are ſome, who can burn pure Tinn into Powder, which, by no Vulgar Art can be again reduced to Tinn, as other Metals; yet with *Arſenick*, it is made *Scoria*, part of which, by a ſingular Skill, becomes pure Silver. *Sigiſmund Wan*, a Citizen of *Wondſied* in *Voitland*, knew and practiſed this Art of Separation, to his great benefit; for in the year 1464 he built and endowed a Famous Hoſpital there, which, as *Gaſper Bruſchius* relates, is this day to be ſeen with the Epitaph of the Citizen aforeſaid. Now that Silver may be made out of Tinn, with *Arſenick*, * *Clavius* proves in his Apology againſt *Eraſtus*; to whom I refer you. So much for *Arſenick*, for the ſake of the Curious.

Tinn yields Silver.

* 2 *Vol. Theatri Chym.* fol. 39.

I now return to *Mercury*, whence I digreſſed, which is ſublimated in this proportion: Take

Take of *Mercury* or *Quick-silver* 280 pound (so much one bundle weighs, as it is brought out of *Hydria* in Sheep-skins) of *Mercury* Sublimated, twenty pound; of Common Salt, and Salt-Peter, *ana* 200 *l.* of the reserved *Caput Mortuum*, fifty pound; of *Vitriol* Rubified 400 *l.* All these must be severally reduced to Powder, under a Mill-stone which is to grind them, turning round and standing upright.

The mixture is made after this sort; The Quick *Mercury* and the Sublimate, must first be mingled with a part of the Common Salt, and of the Salt-petre, and although the Salts be dry, yet, by this Mixture, they become moist; so the *Mercury*, in being mixed with the said Powders, dies: then add the other part of the Salts, proceeding to mix them with an Iron instrument, till the *Mercury* appear no where, quick; This Mixture is very moist, to which if you have a mind to add Rubified *Vitriol* (which is very dry) it consumes the Humidity in a moment, and they become altogether as hard as stone: wherefore instead of the aforesaid Vitriol, you must add the *Caput Mortuum*, either reserved from the first Sublimation, or from *Aqua Fortis*, 'tis all one, so the Mixture becomes moderately dry, which then, you must agitate through a Sieve; afterwards you may conveniently mix the sifted Powder, with the Rubified *Vitriol*. Thus the Mixture is made, with which, fill sixteen great Glass Vessels (let the fourth part of them be empty) place them on Stillatories, and you will sublimate *Mercury* out of the Ashes (but not with an open fire, as the Reformer dreams) in four little Furnaces, each of which may hold four Vessels, set Limbecks to the Vessels, at least loosly, with their Receivers. Let the fire be slow for twenty four hours, in that time, the Salts will dissolve the *Mercury*, and in the Operation it smells like *Aqua Fortis*, which hurts the *Lungs*, yea it almost strangles those that suck it in (as the smell of the Vault at *Puteoli* near *Naples*, doth, a Dog) after twenty four hours the smell ceases, and then the *Mercury* begins to be Sublimated (gather up the *Aqua Fortis*, which is fortified by the other Powders, and serves for the precipitation of

The common Sublimation of *Mercury*.

Mercury) continue that heat, till you see the *Mercury* seperated at top from its *Caput Mortuum*, in form of a Cake, which commonly happens about the fifth day, if you have not erred in the Operation. When all is cooled, by reason of the great weight of the Sublimate, the Glass Vessels will break of their own accord (you must gather up the pieces by themselves, for they have some Sublimate, which you may scrape off, wherewith, at another time, running *Mercury* may be mortified:) Take heed of the Ashes, lest it falls through the chinks upon the Cakes, which they curiously take off, with both hands, and lay aside (they call them loaves) of which every one, will weigh about Twenty five pound, or thereabouts, according to the capacity of the Vessel, which held more or less of the Mixture; So that of 280 *l.* of the live *Mercury*, and 20 *l.* of the Sublimate, you may gather 380 *l.* of the Sublimate.

Now the live *Mercury*, thus encreaseth in weight, Eighty pound, not from the Acidity of the Rubified Vitriol; as the * Reformer thinks, which he therefore says, *must be warily Calcined*, but only from the Common Salt; which I prove thus:

* The Reformer's Error.

Mercurius Dulcis Sublimated, of a Red Colour.

Let the same *Mercury* be Sublimated, with the same proportion of Nitre and Rubified *Vitriol*, without Common Salt, then the *Mercury* ascends Red, and acquires nothing of weight, or of the Corrosive.

Common *Mercury* precipitated.

So also, if the same *Mercury* be precipitated with *Aqua Fortis* from *Nitre* and *Vitriol*, then it waxes shining Red, and acquires no further weight: The cause is, because the Sulphureous Nitre, elevates the sulphur of Vitriol; which do joyntly act, at least upon their like (*i. e.*) upon the External Sulphur of the *Mercury*, and so it can encrease nothing at all in weight, nor assume a Corrosive Vertue.

CHAP. XXV.

Minerva Treated.

NOw, That, Vulgar *Mercury*, hath a *Sulphur*, external and separable from the essence of *Mercury*, besides the testimonies of *Geber*, and other wise Men, Experience also shews (the surest School-Mistris, both here, and every where) by this Operation: 2 *Part. L.* 2. *Sum. Perfect.*

Put clean and pure *Mercury* into a Glass of a plain bottom and very narrow mouth: boil it in Sand, first with a slow and moderate, afterwards, with a stronger fire, to that degree, that *Mercury* may endeavour to ascend, which, if it happen by a simple motion, cause it to subside again. This way, without the addition of any thing, but External fire, it is precipitated shining Red, like That, which was precipitated with *Aqua Fortis*, out of *Vitriol* and *Nitre*; and it neither gets, nor loses in its weight, in as much as the small portion, if its proper *Sulphur* hath mortified and rubified it: as I have shewed in *Aqua Fortis* from (*Sulphureous*) Nitre. For it is the property of *Sulphur*, to rubify *Mercury*, as I have also demonstrated in the preparation of *Cinnabar*; which also gets nothing in weight; which our Chymists must attentively consider, for it is of concernment. *Sulphur* rubifies *Mercury.*

Mingle this red Precipitate (either made *per se*, or otherwise, of whatsoever condition) with Common Salt, urge this *Compositum* with a moderate fire, and then it will be elevated into a Sublimate Corrosive: neither doth the Salt here hinder the Acid *Sulphurs*, yea, without Salt, it would never be made Sublimate Corrosive, out of red precipitate, neither would the *Mercury* encrease in its weight. So, That precipitate, which *Crollius* calls *Turbith Minerale*, in as much as it is made with Spirit of *Vitriol* or *Sulphur*, is not red, because little of the *Sulphur* of *Vitriol* is elevated, without *Nitre*, in the Distilla-

tion; but becauſe of the affinity and ſymbol which it hath in acting, upon the Sulphur of *Mercury*, it grows Yellow, and hath acquired no weight, after the aluminous taſte is waſhed away with hot water.

The ſtrength and Vertues of all the aforeſaid Precipitates are equal, they provoke Vomit, corrupt the Gumms, and, taken often, do cauſe the Execrable *Ptyaliſm*. Hence *Helmont*, *As long as Vulgar Mercury can be rewificated, 'tis no good Man's Remedy.* For as all Medicines, are Poyſon in reference to us, and not to the Excrements; aſſaulting us, rather than Diſeaſes: So alſo is the Vulgar precipitate of *Mercury*. Hence That of my * *Hippocrates*, *No Phyſician can promiſe Health, by preſcribing the aſſuming of Laxatives.*

*Of Feavors, c. 15. 5. 6.

*Of Purging Medicines.

And although many affirm, *That* Mercury *precipitated* per ſe, *without the addition of Corroſive, doth mightily provoke Sweat, and for that reaſon cures all Feavors, as well continual, as intermittent, and ſix or ſeven* times given, *wholly cures the French-Pox*; yet it is not true, but, as I have ſaid, by reaſon of its *Sulphur*, though it be diligently handled the common way, yet it remains the ſame *Mercury* ſtill. And although *Sulphur*, with great ingenuity and Art, be ſeparated from it, yet, not enduring a *Vacuum*, in a ſmall ſpace of time, it regains new, like the former, as our Maſter teacheth, *A-part, it is ſufficient neither for it ſelf, nor any other*: Nay, beſides Experience, *Geber* confirms it, and other learned Men. Hence *the Author of the Book called* Aureum Seculum, *Very elegantly*; *Saturn, his Grand-father, out of meer anger, again changeth* it into what it was before; and therefore this Spirit hath obtained the name of *Multiformous* and of *Mercury*. Thoſe that have paſſed through *theſe painful labours*, know this to be true. But when it is regenerated and reſuſcitated out of Silver, or any other perfect Metal, and alſo cleanſed, as much as is neceſſary, and, with his requiſite, precipitated to a Redneſs, it becomes a Medicine not to be deſpiſed; which provokes neither Stool nor Vomit, unleſs in an undiſcreet *doſe*: yet, it is not the *Aurora* of the Philoſophers, though, as it were, Rain-bows, Peacocks-tails, with ſundry admirable

L. de Diet. p. 50.

I am not ignorant, that *Mercury* is a perfect Metal.

mirable colours, appear in the sides of the Glass, and in the matter it self, after the same sort, as it happens in *Sulphureous* Steel, whiles it is under the hand of the Workman; neither let any Man believe, that this Precipitate is that *Panacaa*, which * *Crollius* saw at *Michael Siendivoius*'s (whose name he expressed in his Preface, with great Letters, here and there, in these words,

Every like is not the same.

* About the midst of his Sixth part.

Apud Magnum *aliquem, cui in aeternum bene sIt, Cum primis egregium* Helioc Antharum, *bor*EaLem, *nunc in Christo quiescentem cujuSmodi* IENtis DenIq; *consu*:Verunt *lat tare temp*Orum *curr*IcVliS:) because it is not by the first Universal matter, reduced to its first matter; But what the first matter of the Philosophers is, besides *Hippocrates*, *Ovid* also doth indigitate, *Tempus edax rerum*, (*i. e.*) the first matter in time doth consume, whatsoever is produced in or from it: Hence the Ancients Fabled, that *Saturn* did devour his own Sons, as the Venerable *Pythagoras* doth witness; *All Secrets* (says he) *are in Saturn*. (*i. e.*) in the most Ancient and first Matter: Of which enough at this time.

* Tis a point of Art, to read it.

Metamorph. L. 15.

Wherefore, the External *Sulphur* in the *Mercury* is the cause of Vomit and Salivation, and not the Corrosive Spirits, with which it is Precipitated or Sublimated; which the inunction with *Quick-silver* it self proves, which is not perceived by the Taste, but the most Acid Sulphur of *Mercury*, as I have shewed, first pierceth the Skin, after the manner of Acids, *Then it creeps to the Ventricles, or cavities of the Muscles, which in healthy Men are turgid and full of Spirit*, for so they are called by *Hippocrates*; Then the second, or at least, the third day, Those who are anointed, either whole, or sick (for now tis all one, to the *Mercury*) begin to languish; the Tortor abides in the Anointing, until at length, in all the Ventricles it doth disorder, alienate, and destroy the Occult Acid and Alcaly, or the faculties (as my *Hippocrates* speaks) which I have shewed to be, and to operate there, That venemous Acidity of the Sulphur of *Mercury*, absorbs the Alcaly of the Ventricles, and makes its fellow, otherwise Occult, with most strong Poyson, more Acid, and manifest; So one faculty is extinguished, and the Acid, multiplyed

Sulphur of *Mercury*, is Poyson.

L. de Arte.

The *Catholick* Hippocratical Doctrine is every where alike.

tiplyed by Poyſon, goes on in working, and acts Retrograde: and, reſolves, as Cauſticks do, all the Aliment into a putrid Maſh: This, the Vital Vertue or Nature, (call it as you pleaſe) endeavouring to expel by fit paſſages, it partly diſſipates it by Sweats, partly, by its purging faculty, it expels it by Stool, with great gripeings; Whence it appears, why many who have been Cured by Salivation, after a long ſpace of time, Relapſe into their ancient Diſeaſes, 'tis becauſe the Malignant diſpoſition is ſtill left in the Body.

Hippocrates reſolves this Doubt for us.

This Occult, but Venemous Acidity of *Mercury* doth primarily then hurt the Teeth and Gums; for as all *Sulphur* hath an Occult Acid (as I have ſhewed before *per Campanum*) ſo *Mercury* hath an Occult Venemous Sulphur, which doth precipitate and rubify it with a gentle, but conſtant, Fire (like Common *Sulphur*) which, I have demonſtrated above, not only by fire, in an Experiment, but alſo by the authority of *Geber*.

Sulphur of *Mercury* Acid.

Now all Acids, eſpecially Putrefactive ones, do offend the Teeth, and Gums (as the *Scurvy* ſhews) and diſſolve the Nerves: then the Blood ſowres there, and putrefies, becoming more ſtinking than a Jakes, with ſuch a Contagion, that the Lips, by touching it, contract Ulcers, and the Cheeks ulcerate within; and this happens not only from its External Unction, but alſo the live *Mercury*, taken often, in a ſmall quantity, by the mouth, performs the ſame thing, as Experience ſhews, and *Rondeletius* and *Platerus* have alſo obſerved. Of this ſort are the Pills of live *Mercury* called *Barbaroſſa*: The old Verſes of *Matheſius* ſuit herewith;

In *Saxopta.*

Terram Mercurij, producta Metalla Veneno:
Eſſe ferunt, *verum eſt, nil niſi virus, habet.*

Metals produced with Poyſon full, Men ſay,
Are Mercury's *Soil, which Venom do diſplay.*

Henco it appears, what we are to think of, that *Sulphur*, which, at this ſeaſon, in the mouths of ſome Noblcs

bles of this Court (Fear not your Teeth in the caſe) under the credulous pretence of a fine, ſweet, and Vital Steam, or *Aura* gives forth a ſad, filthy, truculent, and ſtinking Smell. In ſuch caſes my *Hippocrates* ſays, with a loud voice, *Unskilfulneſs is an evil Treaſure*, &c. * *De Lege.*

Hence we may ſee the reaſon, why Gold-gnilders, and they which ſuck in the ſteam of *Mercury*, do often in progreſs of time, either tremble, or are cramped in their Joynts; but that I may not be too Prolix, I paſs over theſe things in this place.

Wherefore I have obſerved, That *Mercury* regenerated out of Silver, or other perfect Metals, although boiled a whole year, with a different fire, in the above-named Phyal of a plain bottom, yet it can be precipitated *per ſe*, in no degree; and therefore this regenerated *Mercury*, muſt needs want that external *Sulphur*, as appears by Mechanical neceſſity; in the want of which *Sulphur*, it may move Sweat, and ſweetly perform its Operations, Reaſon, and Experience confirming as much: But by great Judgement it being divided into its eſſential parts, and re-conjoyned with new and perfect *Sulphur*, *Then it becomes the ſubject of all Wonder*: as *H.C. Agrippa* ſays in *his Scale of Unity*, but becauſe it is not my purpoſe now to treat of it, unleſs only as it ſerves for Vulgar uſe in Phyſick, I will keep my ſelf within my bounds. *Mercury* Regenerated, an *Alexipharmacum* for the *French* Diſeaſe. *L.* 2. Of Occult Philoſophy.

It appears then, that neither *Vitriol*, nor *Sulphur*, of what kind ſoever, do add either Corroſive Vertue or weight to *Mercury*; as the Reformer would make us believe, ſaying, *That therefore Vitriol muſt be warily Calcined, leſt the Spirits ſhould periſh.* For *Mercury* in Sublimation wants Them not, but only its Humid *Sulphur*; which, as I have ſaid, is elevated by the Spirit of *Nitre*; and they both conjoyned, do act at leaſt on the external Sulphur of the *Mercury*. But if it be urged with a ſtronger fire, it ariſes into a red Powder, not Corroſive, which *Huſerus* and *Crollius* believed to be the *Arcanum Corallinum* of *Paracelſus*, but they underſtood not his meaning, but were miſtaken in their opinion; but when Common Salt is added to *Vitriol* and *Nitre*, then the *Mercury* is diſſolved deeper, by reaſon of the Salt ſapor, and the Sublimate,

Sublimate, grows white, becomes Corrosive, and encreaseth in Weight. And here also, doth not the Acid acquire strength by the Salt? so far is it from destroying it.

So also the Caustick water distilled from *Vitriol*, or *Allum* and *Salpetre*, which is called *Aqua Fortis*, acts at least about *Sulphur*; and unless the Acid Sulphurous Spirits, are in part washed away, or are put to flight by the fire, they are Coagulated, with the *Mercury*, into an Aluminous body, Astringent, and Corrosive.

Pharm. f. 681. Plaister of Froggs with *Mercury*.

This Corrosive *Mercury*, our Reformer would have to be mixed in the Plaister of Froggs, with the Mercury of *Vigo*; *An Absurd invention*, says he, *that Mercury can be mortified by Spittle*: As if *Joan. de Vigo* knew not the Corroding of *Mercury*, who was the Inventor of that Vulgar Precipitate, from him now called *Vigo's Precipitate*. He, I say, made an Emplaister to mitigate the pains of the Joynts, arising from a Virulent Pox, perswading himself, that *Mercury* was the true Alexipharmick of this Disease, but he mingled the live Mercury with things easing Pains, and sometimes with good success; wherefore he advised to mortify the Mercury with Spittle and Oyl of *Bayes*, which is done in a moment, and afterwards to mix it with the other Ingredients.

The Vulgar judges of few things by the rule of Truth, but of most things, by Opinion.

This Mortification of *Vigo*, the Reformer laughs at, and perverts that excellent Man's Text and meaning, adding Reproaches and Calumnies to boot; and in stead of quick Mercury, he teaches to add Corrosive, without any Ablution, or encreasing the fire to expel the Spirits; but whilest it is yet a Liquor, he enjoyns Fat and Oyl, to be super-added, as if the Corroding Acid, would die in the Fat.

Hence it appears, that the Reformer of the *Ausburgh* Dispensatory, hath not so much as a spark of distinguishing Judgement. Surgeons, to consume Proud-flesh, mix the Precipitate Mercury of *Vigo*, which is commonly sweet in Taste, with Fats and Oyntments, not that the Corrosive Vertue may be destroyed, but that it may not fall off.

So then, if the precipitate of *Vigo*, being sweet, and insipid

insipid to the Taste, mixed with Ointment, eats up the flesh, surely This Caustick and corroding one of the Reformer doth exulcerate, and in the place where it ought to asswage Pains, it raiseth new ones.

This is the Artifice, which our Reformer instructs us in, to whom I may well apply that of *Plautus*.

Ibo ad medicum: atq; ibi me Toxico morti dabo.

I will to the Physician hye,

That by his Poyson, I may dye.

But Sublimate Mercury doth revive, when its corrodeing faculty is taken from it: This, *Antimony* doth, and also *Alcalyes*. This *Antimony*, simple *Aqua Fortis* doth not dissolve, by reason of the *Sulphur* mix'd with it, as I have shewed above; but, Salt being added, it presently acts upon it, and separates its *Sulphur*, that it swims atop, like Pitch. This in the *moist way*. Butter of *Antimony*.

So also in the *dry way*, mingle *Antimony* with Mercury sublimate, which I have demonstrated to be Salt, and presently the Saline Spirits desert the Mercury, and corrode the *Regulus* of *Antimony*; but when the Spirits are driven out of the Retort, they run down Saturated with the dissolved *Regulus*, in the form of Butter, which if it be washed with cold water, the powder of *Antimony* falls small, rare, light, and very white, unfitly called *Mercurius vitæ*. But when this Ablution is made with hot water, then it turns Yellowish, and is called *Pulvis Algerotti*. *Merc. Vitæ.* Powder of *Algerotti*.

But the same Butter, if it be dissolved in Spirit of *Nitre*, which again by reason of its similitude with *Sulphur*, doth again corrode Sulphurous and dissolved *Antimony*, and is abstracted by Cohobation, and afterwards applied to the Fire: then (after its manner) it remains constant or fixed; and begins to be called *Bezoar Minerale*, a Cure for great Diseases. But the Mercury, being freed from the Corrosive, representing Metalline Alcaly, is *Bezoar Mineral.*

Cinabar of Antimony.

saturated by the Acidity of the *Sulphur* of *Antimony*, which is also Metalline, and they both constitute an Occult Salt thing, which by the encrease of the fire, is elevated into *Cinnabar*; and this again, with a lighter Alcaly, is reduceable into running *Quick-silver*, as I have shewed in its place.

So that, Gold is not dissolved, without Salt, in Acids, as neither is *Antimony* nor Mercury it self; wherefore Salt doth not destroy Acids, nor on the contrary. Laborious *Minerva* hath discovered This Mystery, which few hitherto have been able to attain unto.

In fine, Salt, if it were at any enmity, either Occult, or Open, with Acids, it would surely be made manifest in the *Butter of Antimony* alone, which is so sensible a thing, that if but one drop of water fall into it, presently the Acid Spirits do associate themselves with the water, and the dissolved *Antimony*, grows white; but cast common Salt, either natural or artificial, or other salt things, and that in quantity, into the said Butter, and it will not be moved nor troubled at all; so far is it from being destroyed thereby.

CHAP. XXVI.

Dicta cum Factis componit.

Words and Deeds compared.

I have shewed that *Alcaly* is in water, and now that *Acidity* is in fire, though by a rude Example, yet it may suffice for our Chymists.

But if any Acid be destroyed, that comes not to pass, by reason of the Salts, as I have said, but the *Alcalizates*, or those of affinity with them, and It is changed into another nature, according to the difference of the Acid; as for example, The Reformer teaches, how to prepare *Crocus Martis*, which he calls *Aperitive*, with Acids, I approve his way in it. He also teaches to prepare another *Crocus*, which he calls *Astringent*, in Flame only; not considering, that the flame of fire

fire is alſo Acid; ſo that This latter Crocus muſt needs be like the former, you may call it *Aſtringent*, or *Aperitive* Crocus; according to the effect it works. All inflamable things communicate Acidity to the flame, as Wood, Shrubs, Herbs, *&c.* The *Reformer* braggs that this inflamable Acidity, is the Acid ſpirit of *Sal Armoniack*, and in this place he plainly is ignorant of it. *In Append. f.* 73.

It may ſeem to many, that I ſpeak a Paradox, when I ſay, that the flame of the fire is Acid: I am ſo far from Recanting it, that I further affirm, Fire comes neareſt to the nature of Salt, conſiſting of *Alcaly* and *Acid*; for which cauſe it is biting, ſharp, acetous, ſubtilly cutting, piercing, pure, incorruptible, incombuſtible, and is that which preſerves from Corruption. Now as in Salt, I have ſeparated the Acid part, ſo I ſhall ſhew, by this Experiment following, that it is ſeparable alſo in Flame. Nature alike in every thing. Properties of Fire and Salt.

Lead with Acid dry Wood is burnt into Minium, but 100*l.* of Lead, after it is turned to Minium, makes 110*l.* I demand how the Minium gets 10*l.* in weight? certainly nothing had been added to it, but the flame only: The flame therefore aſſumed a body in the Lead, and this body, which encreaſed the Lead from the flame, is of an Acid taſte, as the following experiment proves. Lead made *Minium*.

Diſtil, out of a Glaſs Retort, with an open fire, ſome of the ſelf ſame Wood, with which you burnt the Lead, and there will extil a Liquor, of an Acid taſte; which, out of the Retort in form and manner of flame, embraces the Lead, and is mixed with it, and fixed into *Alcaly*. That Volatile *Alcaly* is diſtilled from Soot, is known to all.

Melt again the Minium into Lead, and there will be only 100*l.* as before, ſo that the ten pound gained, was neither Minium nor Lead, but the Acid expelled from the Wood. But *This* not being of the nature of Lead, is not Colliquated with it, and *becauſe it is not ſufficient for it ſelf ſingly*, as *Hippocrates* ſays, in the reducing the Lead, it flies into Element, as I have ſhewed before concerning Salt of *Tartar*, Oyl, Vinegar, *&c.*

This artificial *Alcaly* out of Lead, being turned into Minium, with fire and vegetable Acid; or the ſame Lead

Lead made *Litarge*.

with Mineral Acid, made Litarge, if you boil it with Oyl and Fat, then the Alcaly acts upon the Occult Acid of the Fat, after the manner of the Alcalyes: and the Acid again upon the Alcaly, and so they are coagulated in a Neutral thing.

Plaisters of Lead most Ancient, Prepared by Chymical Art.

Thus is made the Emplaister, *Triapharmacum*, as also That of *Ceruse* and others of the like sort, as I have shewn in Sope, the cause of whose inspissation, was hitherto unknown to the Reformer, as appears by his Epistle to me, to wit, *That the Oyl of Tartar, with the Alcaly was inspissated like Pitch* (as Chap. 21.) And he writes thus to Apothecaries, That these are boiled, according to Art. But among Metals, there is none that doth more readily associate with fixed Acid than Lead: For according to the species of the Acid, it changes its form, as I have said of *Alcalyes*. The steam of Vinegar turnes It into white Cerus; *Acidity* in flame, into red Minium; by the Acid of *Sulphur*, fire being added, 'tis turned into black; with Acid Minerals impure and mix'd, 'tis turned into a double Litarge; with the Acid of yellow Clay, 'tis burnt into Glass of a box-like colour; with the Acid of black Clay, into a swarthy vitreous colour, as the Glass-men know; For which cause, Melters and Refiners of Metals do honour it very much, because it absorbs all sorts of Acids, and clears the Metal from all spots.

Lead yields Colours, and Glass.

* In his Book of Ancient Medicine.

The Ancients have observed, that all inflamations in living creatures, arise from *Acidity* (**Hippocrates* attesting the same; *In Man*, says he, *there is Acid, bitter, most Acid, and hundreds of other things, which according to their quantity and strength, have various faculties:*) For which cause they devised several Oyntments and Plaisters of Lead; That they might take away that Acidity; and the oftner those foresaid Unguents are changed, the sooner is the Acid consumed, and the Distemper cured. This consumption of the Acid, in condescention to the capacities of the Vulgar, we call *re-frigeration*, in as much as it mortifies the cause of Heat.

How Lead cools.

CHAP.

CHAP. XXVII.

A further Probation, that there is Acidity in Flame.

Tincture of Corals.

REverberate whole Corals in an open fire, twelve ounces (for example) for six days and nights (the fire serves the Skilful for distilling Spirit of *Vitriol*) and you will find fifteen ounces (*i.e.*) three ounces encreased, and turned into a most fine powder; this encrease, is nothing else but the Acid from the flame, which dissolves the Corals, and is coagulated and fixed with them, after the manner of Acids, into Salt. If you poure distilled Vinegar on this Salt, it doth not send forth Bubbles, as it otherwise happens in Corals, not reverberated; for they are saturated with Acid, and it dissolves Them into a pellucid Semi-Acid Liquor, which though transparent, and colourless, yet it hath a Latent Sanguineous Redness, which, the affusion of Spirit of *Vitriol*, in a moment makes manifest. 'Twas neither the Vinegar, nor the Spirit of *Vitriol*, which introduced this redness; for then, the Mixture would be always red, when the Magistery of Corals is prepared the common way: wherefore of necessity, this redness must be secretly Latent in the Coral, and by the help of Fire be produced to maturity: of which I shall now forbear to speak more, 'tis enough that, contrary to the sleepy Doctrine of the Reformer, I have shewed, that Acid hath not destroyed this Salt, and that, Tincture of Corals, abides constant in the fire, which you may by ingenuity separate, and it will commend and praise it self.

This Tincture is the Rector or Archeus, as long lited as Coral it self, of great Vertue, not destro'd by fire it self, as I have shewed in Wine.

Antimony fixed by Acid, from fire.

So, place the *Regulus* of *Antimony*, being elevated into Flowers; *E. C.* twelve ounces, on the floure, or hearth, of the Glass-mens Oven, or Furnace, in a large fit Earthen Vessel, well covered, lest the flying Ashes should fall into it, and remove it far from the *Eye* where the

the flame plays, that it be not melted; ſo let it ſtand eight days, afterwards draw the Veſſel nearer to the *Eye*, every fifth day a little, until about the fiftieth day, then you will find the Flowers of the *Regulus* fixed into a ſmall, light, and moſt white powder, and encreaſed by two ounces, by the Acidity drawn from the fire, which pierced the Earthen Veſſel, without hurting it, after the manner of Spirits.

This *Regulus*, was erſt melted, with a gentle fire, now it reſiſts (even Antimonial) Fuſion, unleſs it be urged with quick blowing Bellows, then the Acid Spirits return, from the fire, to their Elements, and you will find twelve ounces of *Regulus*, as I before ſhewed in *Lead*.

In like manner, deal with *Crude Antimony*, and it will part with its Volatile Acid Spirits, and aſſume other more fixed ones from the fire, and is turned into a white powder, like *Antimonium Diaphoreticum*, of greater vertue, in Phyſick, then that which is burnt with *Nitre*: the reaſon is, that here, ſo much of the Sulphur doth not deflagrate with the *Nitre*, but it is here fixed, by its proper Regulus, by the fire, which this Mechanick ſhews: Boil *Antimony* in ſimple water, let it be mixed with three parts of Nitre, and by turns kindled, and calcined, in that Ebullition, the *Nitre* (from the Sulphur of *Antimony* being burnt to Alcaly) diſſolves the Sulphur of the *Antimony*, which is now fixed (as the boiling or bubbling Alcaly of *Tartar* doth diſſolve common *Sulphur*, for Milk, as *Crollius* hath it: ſprinkle Vinegar on this Solution, being filtrated, warm, (and you ſhall perceive the Odor of the *Sulphur*) which preſently is drunk up by the Alcaly, and the *Sulphur* falls into a white, ſmall, rare, light, and ſpongy Powder, which you muſt waſh: A drachm of this, given with Vinegar, in the Plague is more worth than an ounce of that which is not boiled nor diſſolved.

Milk of *Sulphur* of *Antimony*, of great Vertue.

Fixed Antipeſtilential *Antimony*.

Hence it appears, That the Sulphur of *Antimony*, which elſewhere deflagrates with the Nitre, here is fixed by its proper *Regulus* by the Fire, in the above-named Veſſel, and ſo becomes more perfect, ſo that there is Acidity in the flame of Fire, which I have ſhewed to be imbibed

imbibed by Corals, and Antimony, as well as Lead, and ſo by Iron it ſelf, which with this, and all other Acids, is with fire turned into Ruſt. So that there is no difference, betwixt that *Crocus Martis*, which is made either with manifeſt, or Occult *Acids*; both of them are either binding or looſning. *Crocus Martis.*

CHAP. XXVIII.

The ways and neceſſities of Precipitation diſcovered.

THere are Varieties of Opinions amongſt Writers, concerning the Properties and Operations of Iron, and how, and by what manner, it performs them in Man's body, * *Sennertus* gives us a Catalogue of them, but few of them have hit the Mark, by reaſon of their ignorance of *Hippocrates* his Doctrine. I will therefore ſhew how It adſtringes and how it looſneth. * *L.* 3. *P.* 2. *ſect.* 2. *C.* 7. * *L.* 1 *de Diæt.*

Iron doth manifeſtly bind, and conſequently it ſtrengthens the Stomach and neighbour parts. Therefore it is good in the Dyſentery, Lientery, Diarrhæa, and all Laxative diſeaſes, &c. But I hear ſome object, that Iron Medicaments provoke the Terms in Women, and reſtore the defects of the Liver, and Spleen, and ſo do rather Looſen than Bind? I anſwer (not as that Canonical Phyſician, who aſſerted, *That the ſtones of Crabbs, were a Mineral, and therefore an enemy to Nature*:) but my anſwer is from the works of Nature, in which I have demonſtrated out of * *Hippocrates*, *That theſe things muſt needs ſo happen by Divine neceſſity*; To wit, that there is often obſerved to wander up and down in us, a certain diſſolved Salt, the Generation whereof, I have ſhewed before in its place, It conſiſting of *Acid* and *Alcaly* Compounded, leſs agreeing among themſelves, and unfit for Tranſpiration and Sweat. This, by reaſon of the inequality of the Sapors, doth not obey Purging Medi- * *L.* 1. *de Diæt.*

cines,

cines, as Experience ſhews: Call *this*, if you will, an Humour truly excrementious, lodging either in the firſt, or in the laſt region of the Body, produced either by the Womb, Liver, Spleen, Reins, Sweet-bread, Meſentery, or Stomach; as to this point, 'tis all one. Iron then being taken, which as I have ſhewed Mechanically, doth eaſily imbibe all Acids, preſently, That Noxious Liquid-Salt, or Excrementitious Humour, runs haſtily to the Iron, and adheres to it, that it may diſſolve it, and ſo that Saline Excrement, according to the kind of the Sapor, whiles it ſticks to the Iron, and corrodes it, is coagulated (as we have ſeen it, with the Acid of *Vitriol* to be turned into *Vitriol*, with the Acid of Wine into *Ruſt: So alſo it happens in Copper, which, if Vinegar corrode, it becomes Verdigreaſe; if the ſame Copper be corroded by Spirit of *Vitriol*, it becomes *Vitriol* of *Venus*; Conſonant to this Doctrine is, what I have formerly Ocularly demonſtrated concerning *Alcalyes* and *Acids*) but ſithence It cannot be aſſumed into Aliment, therefore it is purged by Stool, with the diſſolved Iron, of a black colour; which colour ariſeth, when the Acid Salt, corrodes the Iron, and the Alcaly precipitates it into Colcothar, as I have ſhewed above in its place.

* And becomes the Tincture of *Mars* of the Reformer in his Appendix, *fol.* 83.

It doth not aſcend the *Diaphragma*.

But when Iron is drank, diſſolved in an Acid Liquor, but grateful to the Stomach, The ſame Liquors being taken, and throughly admitted, the Iron preſently, being unfit, as I ſaid, for Aliment, is ſeparated from the Acid, by the Vertue of the Alcaly in the Mixture; In which Segregation the aforeſaid Salts or Humours flow to the Iron, and adhere to It, as we ſee it happens to Silver diſſolved in *Aqua Fortis*, if thin Plates of Copper be caſt into the Solution, then preſently the Acidity of the *Aqua Fortis* deſerts the Silver, and corrodes the Copper, and the Silver adheres to the Copper, as a compact Powder. Again, put a thin plate of Iron into the Solution, which is now greeniſh from the Copper, and the water preſently leaves the Copper, and corrodes the Iron, and the Copper adheres to the Iron, whiles the Vitriolate water of *Coſtaria* corrodes the Iron, then the Copper falls from the water into the place of the Iron, which contained the

As appears in *Acid* Fountains.

I ſpeak not of him, that never ſaw any thing in his life, but ſtinking Excrements.

Vitriol

Vitriol unripened, this red powder, melted in the fire, turns to Copper: This Precipitation, many learned Men (but ignorant of *Hippocrates* his Doctrine) have believed to be the transmutation of Iron into Copper): even so Mechanical reason and necessity also do Dictate, that it must be in Man's body, especially, since *Nature is alike in every think*, as the *Old man* speaks. For unless the excrementitious Humour were of a certain Semi-acid Nature and Taste, the Iron would not be dissolved in the body into a green or black mash, as we daily see, that it is, and I have also shewed in its place. And unless the Excrements be so tinged, Iron is unadvisedly given, for it finds not a fit Humour to dissolve it; and in that case, Iron is Astringent, though the *Aperitive Crocus Martis* of the Reformer had been taken by the Mouth. The same thing is to be understood of Acid Spirits, as of *Vitriol*, *Sulphur*, *Glass*, and *Salt*, for These, if they find not a wandering Alcaly in the body of Man, an enemy to Vitality, and therefore Morbous (which the Acid Spirit may receive into it self) they do more hurt than good, for then by their over much Acidity they infect the neighbour Aliment of the Stomach, and make it unfit for Nourishment. A Physician of *Rome*, a friend of mine, *Anno Dom.* 1656, in the time of the Plague, used Spirit of *Sulphur*, in quantity, for a Preservative, who thereupon became * Arthritical, and was afterwards restored by the Alcaly of Animals, as I have elsewhere shewed, concerning the *Feet-Gout*. For the Alcaly imbibes the Acid, wanderingly dispersed over the the body, which was the cause of Disease and Pain in the Ventricles, not being accustomed to things manifestly Acid; for so * *Hippocrates* teacheth. *If any one prescribe Acid meats inconsiderately and without choice, they do no good.*

The use and abuse of *Acids*.

* The Remedy of *Arthritis* is by *Alcalyts*.

* Of Purging Medicines.

On this principle of Precipitation, was the Golden Nail of the great Duke of *Florence* made; which *Ferdinand* the first of happy Memory, graced with this Testimony, which is to be seen with the Nail at *Florence*.

Mr. Leonard Turneisser *in my sight and presence, turned an Iron Nail heated in the fire, and immersed in Oyl, into Gold; done at* Rome *the* 20th *day of* November *after Dinner:*

A Golden Nail.

Such Nails, I have also, in Sport, sometimes made, with my own hands, but such as deal in Metals the vulgar way, think it altogether impossible that Gold and Iron should Conglutinate; and therefore they firmly believe, that This Nail is really changed out of Iron into Gold, and that which confirms their belief, is, that Gold doth not adhere to Iron; yea Gold melted, corrodes It in a moment, and turns it into Rust *. But Gold is connected with Iron, by means of Precipitation, as I have said, on the same reason and ground, for which Iron precipitates Copper: Cut then an Iron Nail into two parts, moisten the end, at least with Spittle, and presently touch that part with Cupreous Vitriol, and in the very *punctum*, the extremity of the Iron, waxeth red, and hath now acquired the nature of Copper; Now Gold is easily associated to and with Copper; and so fit a Cuspe, or point made of Gold to this Cupreous Iron; and with Borax and Golden Solidature or Soder (which is made of * Copper money, a little Silver and Gold melted at the *Eye* is better) melt it after the accustomed manner, in a fitting Coal-fire, and then you shall have the Golden Nail so much spoken of. *Turneisser* tinged this Nail with *Ferrugo*, wherewith he hid the Gold, and so (without doubt offered it to that great Prince, to handle with his hands, which being so disguised, the Skilfullest person, that is, would have judged to be Iron. And then heating it by the fire, and dipping it in a certain Oyl (as the Testimonial says), and washing away the *Ferrugo*, the Gold appeared. This was the Artifice, if it be worthy of that name.

* As Common *Sulphur* doth.

* Glew of Gold.

But let us return to Iron, which taken at Mouth, frees from Obstructions arising from the aforesaid Excrement, and so becomes Aperitive by accident, in as much as it absorbs that coagulating wandering Acidity, proscribed by Nature, yet of it self, it is still Astringent; wherefore it is *Aperitive* by a specifick and appropriate Vertue, but it *Binds* by a second quality.

The passage from one Extream to another, is impossible without a *Medium*, as the Philosopher says. 6. *Phys.*

Iron Opens and Binds.

CHAP.

CHAP. XXIX.

Nux Cassa.

Shell without Kernel.

I Have declared, that Copper is turned by Vinegar into Ærugo, or Verdigrease. This the Reformer advises us to Distil, *I remember* (says he) *that I have made mention of a certain secret Menstruum, which hitherto the Canine envy of some Malignant and Ingrateful Fools hath caused me to keep secret amongst my other Arcana's; but now leaving the revenge of all injuries wrongfully offered, by what hand soever, to God, being pressed on by a good conscience, and the benefit of the Publick, I am resolved to publish it, on which the greatest of Remedies do depend, as their main Pillar:* What will our Princely Doctor now teach us? *Spirit of Venus, and an hidden Menstruum*, which for unworthy Mens sake (who can forbear laughing!) he determined to conceal. Oh unskilful Rudeness! who would ever have expected from him, such a great and liberal Contribution, for the publick good, unless he had told us so himself? *Append. f. 72.*

A sad severity in Countenance, but no truth in his words, *Tr. Andr.*

O Curas hominum, O quantum est in rebus inane!

O curious Study and vain Care,
Of Men, that vain and empty are?

'Twas more than a hundred years since, that *Basilius Valentinus* published this Distillation of Vinegar (in a Book, which he calls, *A Manuduction to Physick*, Written in the *Germane* Tongue, and Reprinted at *Frankfort* by *Lukas Jennis*, *An.* 1625. in Quarto) under the Title of *The true Solution of Pearls.* The Reformer borrows it from him, suppressing the Author's Name, for there it is word

In Aq. Epilept. Pharm. Regia. f. 170.

for word, and this he boasts, not only *for an Universal Solvent*, but (feigns it also to be his own Invention, and inscribes it, *Our Spirit of Venus*) for the *Liquor Alcaheſt*; So that, not without a fatal Prediction, *John Frederick Bauz*, prefixed the Reformer's Name before the Diſpenſatory, with an Anagramme worthy of him, as may be there ſeen. But the Reformer adds without bluſhing; *This moſt excellent Spirit is not only of great vertue in Phyſick, as being highly Curative of Epileptick, Apoplectick, Hyſterical, and Hypochondriacal Diſtempers, being duly and lawfully exhibited; but is as the Liquor Alcaheſt, and not as other Acid Spirits, who ſuffer and are deſtroyed by Solution, and ſo are turned into another* Ens, &c. I could with *Baſilius*, when he taught us how to diſtil this Vinegar, had been afraid of Impoſtors, as *Hippocrates*, *Paracelſus*, and others were. Then the Reformer had never obtruded This, for the Liquor *Alcaheſt*, nor had loaded it with ſo many Encomiums, thereby deluding the World. He adviſes us to buy this Vinegar at any rate, adding theſe Vain-glorious and Magnificent words; *Enjoy* Courteous Reader, *this Secret, and let me continue in thy good grace, for my faithful Communication of it.* In good time? draw near all ye inquiſitive ones, behold a great Secret manifeſted never ſo much as dream'd of before? But Nature laughs to ſee ſuch lyes held forth for truths: There are ſome, who, without any great labour, time, or expence, do diſtil a like and much more powerful Liquor out of Lees of Vinegar, into a great Receiver, which yet they proclaim not for *Alcaheſt*.

To what purpoſe theſe uncouth, coſtly, laborious, and nauſeous Compoſitions, if Vinegar, which is grateful to all, doth the deed.

Turpe eſt Doctori, &c.

Let us therefore take notice of the Subject from which the Reformer diſtils this *Wonderful Solvent*, which, with a worthy Name, he appropriates to himſelf, and calls it *Our Spirit of Venus*.

It is *Ærugo* or *Verdigreaſe*, which is thus made, thin Copper plates are put into Mother of Wine, when it is ſowre; this Acidity corroding the Copper, is coagulated with it into Salt, as it happens to every Acid by Corroſion, as I have Ocularly demonſtrated in *Lead* and *Coral*: The Reformer mundifies this green Salt with Diſtilled Vinegar, from which ſurely nothing but Vinegar can be diſtilled,

distilled, as *Basilius* in the fore-cited place, doth ingeniously confess; as it happens to Spirit of *Vitriol* by corroding Copper, it becomes *Vitriol*; from which, if you distil it, you can extract nothing else but the same Stagma or Spirit of *Vitriol*, which you poured on it, according to the Old saying, *Nihil dat, quod in se, non habet:* Melt the remaining *Caput Mortuum* or Fæces, in a Pipkin, adding thereto a little *Nitre* and *Tartar*, then the Copper returns to Copper, as it was before it was changed with the Vinegar in Verdigrease. This is the Secret and mysterious business the Reformer out of his over-flowing Liberality, is willing to communicate for the Publick good, and *perswades us to buy at any rate*, saying, *Enjoy, Reader, this Secret*, &c. Away with this Cheating, which even the Vulgar do deride, not believe? Men know well enough, that Secrets are not to be revealed, but in Parables, Allegories, Metaphors, and such like Disguisings; So *Hippocrates* advises, and both He and Venerable Antiquity doth the same; *Speak not* (says the Wiseman) *in the ears of a Fool, for he will despise the Instructions of thy mouth.* So *Johannes Picus* in his Book of the Dignity of Man, *Pythagoras*, *Plato*, *Boetius*, *Macrobius* in *Scipio's* Dream, *Cornelius Tacitus*, &c. All of them, with one Mouth, affirm that Secrets are not to be divulged, that so unworthy men may not be partakers of them.

Secrets discovered, lose their esteem.

But go to? may we not use Vinegar simply distilled with less labour and charge? since it is one and the same thing? Do not the Writers of the Elements of *Chymistry* teach us to prepare Salt of Pearls and Corals with Distilled Vinegar? and afterwards to wash it? which yet is found to be unprofitable, in as much as the *Acids* are coagulated with the Solution, as I have often shewed before.

But to contract all in a few words, *The Vinegar and Spirit of Venus* of our Reformer, are nothing but water impregnated with an Acid Volatile Salt, which, if it corrodes any thing, 'tis presently Coagulated, which afterwards by combustion is fixed into Alcaly.

Wherein now doth the Magistery of Corals and Pearls of the Reformer exceed That which the Rudiments teach? What Prerogative one hath above the other, we

we may learn from Spirit of *Vitriol* and *Sulphur*, which precipitates both; the reason whereof is, that the more potent Acidity apprehends the Solution, and in it undergoes Coagulation, and therefore encreases in weight, neither can you fetch it back, but by a violent fire.

Append. f. 13.

That Experiment is fallacious, if Knowledge precede it not.

Is it so indeed? doth our Reformer *so satisfy God, his Neighbour, and the Truth?* as he affirms in his *Animadversions*? Are these the *Inventions taken from true Reason and Experience, hitherto seen, and observed by none else, for the comfort of Mankind?* As he boasts in the Preface of his *Appendix*.

Was *Horus* so to be deluded? to whom he promises in his Epistle Dedicatory, to discover what he knew not, to wit, to rectify *the Genuine and usual method of compounding Medicines, and to free it from Errors, lest the People should be put to the loss of their Money and Health, but that they may live more happily.* To wit, by proclaiming Vinegar for *Alcahest*.

He that speaketh the Truth, may do it without labour and trouble; and I wonder you sweat and labour so? *Davila.*

Are these the things, *Which leaving his necessary businesses he published to the People with so great labour*, as his Epilogue speaks?

Ib. Append. f. 13.

This Reformer being drunk with his own Vinegar, cants out Wonders, *Our Spirit of Venus* (says he) *Extracts an Adstringent Tincture from Filings of Steel.* News indeed! as if all Vinegar with Iron filed, did not grow Red? 'tis known * to do so to all Blacksmiths. In his *Mantissa Hermetica*, a little before he teaches, that he can prepare *Adstringent Crocus most exactly by Reverberation alone, without the mixture of any other thing:* Now, to procure Credit to his Vinegar, he grants *both:* What is this, but impatiently and foolishly to play the Trifler, yea to pretend to teach the contrarieties of Salts and Vinegar, and yet to know neither.

* *f.* 792. Vinegar grows Red with shavings of Iron, but Spirit of *Vitriol* is coagulated with it into *Vitriol.*

CHAP.

CHAP. XXX.

Exitus Acta probat.

The End crowns the Action.

Out of a desire of Knowledge, I red the *Pharmacopœa Regia*, Writ by our Reformer, out of a vain itch for Glory, but full of many Absurdities. He promises to Kings a *Narcotick Sulphur of Vitriol*, under the Title of *Laudanum*; but it may be truly said, of it, The King escaped by the help of Fate, and not of the *Narcotick* Sulphur of *Vitriol*, which is no where found in the whole Book of Receipts: So also he promises to Queens a *Ludus Præparatus* to beget Milk, which yet he never saw or knew: Hence came the common Proverb, *Mentiris ut Medicus*. This *Sulphur* of his, and that *Ludus Præparatus*, change not their Soil, nor pass beyond the Seas; they like well the place of their Nativity, and love not to stir further, *viz.* then the brains of the Reformer. *f.* 819.

So in his splendid *Appendix* to his *Pharmacopœa Regia*, almost in all his *Compositions*, we have these Pompous words, *Magisterium Nostrum Solubile*. An Ostentation so vain, that it would raise laughter in *Heraclitus* himself, which yet is nothing else, but Pearls and Corals corroded with Vinegar, as is known to every Fresh-water Physician. But he himself undervalues and laughs at the *Long Receipts of Writers*; but who ever saw or read longer than those in his *Pharmacopœa Regia*? who, more Inelegant ones? Take that *Compositum* for an example, which, by a specious Title, he calls *Pilula Regia*, where *Opium* produces all the effects which he promises. To what purpose then is the corroded Gold, which, being Simple, hath no affinity with *Opium*, the ground of the Pills, of these *Homer* sings, In *Append.* to *Animad. f.* 532. *f.* 123.

Pharmaca

Pharmaca mixta salubria multa, & noxia multa.

Of mixed Druggs, some hurtful are, some good.

Truly the huddling together of *Simples*, made by unskilful hands, do infatuate and destroy Princes, and *causes the nick of the Cure-time, which in a moment passes away, to be spent in uncertain conjectures.* I shall add but this one thing. I advise you to avoid Receipt-mongers as much as Jugglers, who do boast of their Prodigious Compositions, and so Huckster and make Merchandize of our Diseases, and as it were, cast lots for our Lives: I say it is impossible, or at least very difficult, to determine any thing certainly, unless only Putatively and Conjecturally, as I have shewed in the Nettle only. But as often as *simples* things do not effect what was desired, then it is that they want *Composition*, as I have clearly shewed in Vulnerary Potions, in Tinctures and Inks; and I will yet further evidence by this one example: Take two parts or pugils of Juice of Sage, of Vitriol of *Mars* one part or pugil, both of these mixed, do suddenly grow black, for the Occult Alcaly of the Sage doth absorb the Acid of the Vitriol; In an hour the Acid, as it is a Mineral, doth conquor the feeble Alcaly of the Vegetable, and the *Compositum* waxes green: To which add further, three parts of Vitriol, then it assumes not a black colour (as might in reason be thought) but the Alcaly then consumes at least the subtle Acid as turns the Vitriol into *Ocre*, as it happens to It, when the Spirit by little and little decays; but whither do I digress, seeing I know that what cannot be changed and altered, is to be born?

Hipp. 1. Aph. 1.

One matter alone cannot have two Species together; which our Chymists must diligently mark.

Append. f. 48.

But the Reformer doth perpetually commend such Compositions, saying, *That both the Sick and Physicians too, would be in an happy case, if such Medicines which are truly Royal, were at hand, and yet of so small a price, that they may be used by the poor*, &c.

Now to you therefore, O ye Ingenious *Pharmacopeani*, do I direct my speech, I beseech you to cast up the accompt, and to judge (not of many unprofitable and laborious

berious Compositions, which if they were all at hand and in readiness, the whole City of *Auspurgh* would scarce contain them, but only of the distilling of this Vinegar from Verdigrease for corroding Coral, for if you reckon up the Vessels and Instruments of Art requisite for the purpose, with the Time which is to be spent in it, where will there a poor man be found that can be at such expence? but if this and such like artificial Compositions be dispensed and sold for a small price,

Tunc labor in damno est, crescit mortalis egestas.
Then our Labour procures Loss,
And Poverty becomes our Cross.

But if I should longer insist on all the gross and Erroneous Opinions of our Reformer which are scattered here and there, I might swell a Volume, which may be plainly seen in his first Syrup. * This, as others, was invented by the Ancients, that it might be Administred to every individual person, and so be in readiness and at hand in Shops; but seeing many persons can hardly endure the smells, especially of *Spike*, without belching and turning of the Stomach, yea they resist Digestion, as appears in Meats seasoned with Spice, who do destroy the ferment of the Stomach; Hence the Ancients commend *simple* Food as most wholsome. For this cause, even for this Syrup, they chose *Pontick Wormwood* as less Odorous, and boiled it in old Wine, together with *Spike*, that the Odor, together with the Spirit of Wine (to which it is easily associated) might wholly be expelled and gone; which, the addition of Juice of *Quinces* shews; for unless This had been the Intention of the Ancients, instead of this Syrup, they had used *Quince-wine* and *Wormwood-Wine*, as we may * see in *Dioscorides*. They preserved the remainder with Sugar *from* an hoary Vinew, and thickned it into a Syrup.

* Of *Wormwood, Pharmac. f.* 17.

Simple Food most profitable; the heaping together of Sapors is Pestiferous. *Plin. l.* 11. *c.* 53. 83

* *L.* 5. *c.* 49.

So also sundry sorts of Wines, mixed together and drunk, as is usual in Feasts and Banquets, do not only create trouble and labour to the *Rector* in Man (which I shewed above, *Chap.* 15. out of

* Of the Humours.

* *Hippocrates*, hath his ſeat in the mouth of the Stomach) to unite them, but moreover do eaſily Inebriate Men, and by tender Perſons are ſometimes violently caſt out by Vomit; but when the Juices of the ſame Grapes (though Multiformous and Various) are united together by *Fermentation*, then from and by diverſe *Rectors*, one wholſome drink is made, not offending the Stomach; even as *Treacle* is made out of diverſe *ſimples*, co-united by *Fermentation*, over which, one only *Rector* doth Predominate: Hence It is commended by *Avicen*, as of wonderful Vertue, as I have noted in my Preface.

Gio. Boccat. Nov. 7. Fab. 2. obſerved this alſo.

But ſince it is none of my Intent to diſcover Pebbles in the Sea-ſhore (as the Proverb is) where there is ſuch an infinite number of them, eſpecially not being delighted with this kind of Writing, it is againſt my *Genius* to inſiſt any longer on theſe Trifles, and therefore I will now withdraw my Pen and Hand.

This is the Streſs of the Matter, The Reformer came to act his Part on the Stage before he knew *That Nature did act alike in every thing.*

Now for a Concluſion, a word or two to our *Friends* in their ears; the *Acid* doth inform the *Alcaly*; with Theſe, the ancient Foundations of Old Phyſick and of the Viperine Salt, do abſolutely agree in a perpetual Concord and an immutable Similitude, (as I have ſhewed to thoſe that underſtand me aright) from the decree of Nature it ſelf, and out of the Doctrine of my *Hippocrates*, by the moſt Harmonious and Mechanick Reaſon, and the higheſt neceſſity.)

The ſpecifick Rector dwells in the *Acid*, which informs the *Alcaly*.

My pretended Friend endeavouring heretofore to learn this conſent of *Nature* and *Art* by examples, and not being able to do it, he rages like a mad Dog, and bites *all* that come near him; preferring himſelf far before others, as appears throughout all his Writings; So every Bird likes his own note beſt, neither is any thing more unjuſt than an unskilful Man, (as *Terence* ſpeakes) *Who thinks nothing well done, but what he does himſelf.*

In Adelp. act. 1. ſc. 2.

FINIS. AN

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